DOCUMENT RESUME

ED 115 690 TM 004 964

AUTHOR	Vale, Carol A.; Bianchini, John C.
TITLE	Evaluation of Educational Achievement Test Measures as an Eligibility Criterion in the Better Schools Act Formula. Final Report.
INSTITUTION	Educational Testing Service, Berkeley, Calif.
SPONS AGENCY	Department of Health, Education, and Welfare, Washington, D.C. Office of the Assistant Secretary for Planning and Evaluation.
PUB DATE	Aug 73
NOTE	64p.; For related documents, see ED 092 601-634; Page 35 will not reproduce on Microfiche or hardcopy
AVAILABLE FROM	National Technical Information Service, Springfield, Va. (PB 240 651, MF $2.25, HC $4.75)
EDRS PRICE	MF-$0.76 HC-$3.32 Plus Postage
DESCRIPTORS	Achievement Tests; Correlation; *Data Analysis; Demography; *Elementary School Students; Family Income; Grade 4; Grade 5; Grade 6; Matrices; Public Schools; Raw Scores; *Reading Tests; Standardized Tests; *Student Characteristics; Tables (Data); *Test Results; Urbanization; Welfare Recipients
IDENTIFIERS	*Anchor Test Study; Metropolitan Achievement Tests

ABSTRACT

This report contains the selected descriptive analysis of the Anchor Test Study. Data originates in the public school segment of the national sample of grades 4, 5, and 6 who were administered the appropriate level of the Metropolitan Achievement Test (MAT): Reading, Form F. A description of the determination of the data base, of the analyses and results, and of the generalizability of the results for Northern and Southern states comprises the project report. Descriptive Tables are: Relationships between Test Performance and Income Level; Relationships between Test Performance and Degree of Urbanization of School Location; Correlation Matrices; Distribution for Selected Subgroups (Word Knowledge, Reading Comprehension, Total Reading Score). All tables are broken down by grade. (NTIS)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED115690

EVALUATION OF EDUCATIONAL ACHIEVEMENT TEST MEASURES AS AN ELIGIBILITY CRITERION IN THE BETTER SCHOOLS ACT FORMULA

Carol A. Vale

John C. Bianchini

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

TM004 964

EDUCATIONAL TESTING SERVICE
PRINCETON, NEW JERSEY
BERKELEY, CALIFORNIA

EVALUATION OF EDUCATIONAL ACHIEVEMENT TEST MEASURES AS AN ELIGIBILITY CRITERION IN THE BETTER SCHOOLS ACT FORMULA

Carol A. Vale

John C. Bianchini

Final Report: Contract HEW-OS-73-189

EDUCATIONAL TESTING SERVICE

BERKELEY, CALIFORNIA

AUGUST 1973

2A

Table of Contents

Project Report . . . . . 1 - 6

Tables . . . . . 7 - 47

Description	Number		
	Grade 4	Grade 5	Grade 6
Relationships between Test Performance	1	2	3
and Income Level	4	5	6
	7	8	9
	10	11	12
	13	14	15
	16	17	18
	19	20	21
	22	23	24
Relationships between Test Performance	25	26	27
and Percent on Public Welfare	28	29	30
	31	32	33
	34	35	36
Relationships between Test Performance	37	37	37
and Degree of Urbanization of School	38	38	38
Location	39	39	39
Correlation Matrices	40	40	40
	41	41	41

Table of Contents (continued)

Distributions for Selected Subgroups

Word Knowledge

Grade 4 48

Grade 5 49

Grade 6 50

Reading Comprehension

Grade 4 51

Grade 5 52

Grade 6 53

Total Reading Score

Grade 4 54

Grade 5 55

Grade 6 57

Appendix

Table A A.1

This report is submitted to the Department of Health, Education, and Welfare under Contract Number HEW-OS-73-189 in fulfillment of the selected descriptive analyses of the Anchor Test Study data specified in the contract work statement. The procedural details and results follow.

Determination of the Data Base

The Anchor Test Study normative sample consisted of a nationally representative probability sample of 918 schools, comprising 812 public, 92 Catholic, and 14 private non-Catholic. Only the public school segment of the national sample was used for the ensuing analyses. In each school, all pupils in grades 4, 5, and 6 were administered the appropriate level of the Metropolitan Achievement Test (MAT): Reading, Form F. Percentile ranks for each raw score point of the Total Reading Score (sum of Word Knowledge and Reading Comprehension subtest scores) were developed separately for each grade. These data permitted computation of the percentages of children in each school who fell below the 15th, 25th, 35th, and 50th percentiles, respectively, on the MAT individual norms developed in the Anchor Test Study.

In addition, each testee's answer sheet contained a section entitled "For Test Administrator Use Only", on which the following data were entered by the test administrator (usually the classroom teacher): race, whether or not the child needs remedial instruction, IQ, and whether or not English is the primary language. Additional demographic data, reported by a school official at the school level only, included percentages of pupils from families with various income levels, percentages of pupils from families on public welfare programs, and location of the school with respect to degree of urbanization.

These data supplied all the requisite information for the five types of analyses specified by the contract. Where this information was either insufficient or entirely lacking, the school was deleted from the analysis. The five types of analyses and the number and percentage of deleted schools for each type appear below.

1. Relationships between test performance and income level (27 schools; 3.3%)
2. Relationships between test performance and percentage of families on welfare (27 schools; 3.3%--same schools as in 1)
3. Relationships between degree of urbanization of school location and test performance (3 schools; 0.4%)
4. Correlations between various demographic descriptors and test performance (49 schools; 6.0%--the 27 schools deleted in 2 plus 22 others)
5. Test score distributions for selected subgroups of the total public school sample (2 schools; 0.2%)

No school was dropped because of insufficient valid test score data. Only five schools had less than 80% valid test data at any of the three grades. Of these, four were above 75% and the fifth was 71%.

For all analyses except the correlations, all deletions resulted from missing data. For the correlations, a minimum of 75% response rate was considered sufficiently large to characterize a school on each of the variables; any school, therefore, lacking information on more than 25% of its students was dropped. Use of this criterion resulted in a loss of 22 schools (2.7%) in addition to the 27 schools (3.3%) for which no data were available; thus, a total of 6% of the schools was deleted from the correlation analysis.

Description of Analyses and Results

1. Relationship between Test Performance and Income Level

Tables 1-24 contain these results for each of grades 4, 5, and 6. In each table, a cell entry represents a percentage of schools characterized by the income and test score percentages which it intersects. For example, in Table 1, the cell entry in row 1, column 2 indicates that 8% of the schools at grade 4 have between 0% and 20% of their pupils from families with income less than $3000 and also have between 21% and 40% of their children scoring below the 15th percentile on the MAT Total Reading Score.

For all of these tables, the unit of analysis was the school; the percentages contained in each table were based on weighted frequencies of schools, where the school weight was determined by the inverse of its selection probability. This weighting is required by the nature of the sampling design to ensure representativeness of the sample and thus generalizability of the results.

2. Relationship between Test Performance and Percentage of Families on Public Welfare

Tables 25-36 contain the results of these analyses for each of grades 4, 5, and 6. The percentages given in these tables were determined in the same manner as were those for Tables 1-24 and are to be interpreted similarly. For example, in Table 27, the cell entry in row 2, column 1 indicates that in 49% of the schools between 1% and 10% of the children were from families on public welfare and less than 20% of the pupils fell below the 15th percentile on the MAT Total Reading Score.

3. Relationship between Degree of Urbanization of School Location and Test Performance

Tables 37 and 38 present the data, separately for each grade, for Northern and Southern states, respectively. Table 39 contains the results for the Northern and the Southern states for all three grades combined. Classification of states into Northern and Southern followed the U.S. Census Bureau Geographic Regional Classification and is presented as Appendix Table A.

In these tables, the unit of analysis is the individual student, weighted by both the inverse of his school selection probability (school weight) and an adjustment for absenteeism and invalid testing. The percentages given are based on column totals and are thus to be interpreted conditionally upon the school location. For example, in Table 37, the entry in row 2, column 5 under Grade 4 should be interpreted as follows: 20% of the students at grade 4 attending schools located in middle size cities in the North fall below the 25th percentile rank on the MAT Total Reading Score.

Generalizability of results for Northern and Southern states: The Anchor Test Study norming sample was selected to be representative of the total U.S. school population at grades 4 through 6 and specific subpopulations may not be adequately represented therein. However, the Anchor Test Study sampling design included stratification on the basis of the four Census Bureau geographic regions and resulted in the selection of 561 schools from the Northern states and 251 from the Southern states. Given the large numbers of schools, the weighting procedure based on school selection

probability, and the use of geographic region as a major stratifier, it is reasonable to consider the Northern and Southern state samples as representative of their regions, and generalizability of the results is thus warranted.

4. Correlations between Various Demographic Descriptors and Test Performance

The correlations between test performance and the selected demographic variables for each grade appear in Table 40; the matrices of intercorrelations of the demographic variables for each grade appear in Table 41. For all correlations, the school (weighted) was the unit of analysis and all variables were expressed as percentages.

All variables are self-explanatory except the definition of minority membership and ESL. The term "minority" included American Indians, Orientals, Blacks, and Spanish-surnamed children for whom English is not the principal language. ESL is an abbreviation for "English is secondary language."

5. Test Score Distributions for Selected Subgroups of the Total Public School Sample

The test score distributions are presented for each grade and for each of the two MAT subtests, Word Knowledge and Reading Comprehension, as well as for the Total Reading Score. The distributions are based on all qualifying children, each weighted by his school weight adjusted for absenteeism and invalid testing. Two subgroup designations are worth further comment. A student qualified for inclusion in column 4 if he attended a school in which at least 25% of the children were from families with incomes

less than $3000; similarly he qualified for inclusion in column 5 if at least 50% of the children in his school were from families with incomes less than $6000. In neither case should all children in the given distribution be considered to be from families under those two income levels. No income information at the individual level is available in the Anchor Test Study data.

The mean chance performance on each of the three reading scores is:

Word Knowledge	: 12.50
Reading Comprehension	: 11.25
Total Reading	: 23.75

This level is indicated in each table by a horizontal line below which are all pupils scoring less than the expected chance level. For example, in the 4th grade on the Word Knowledge subtest, 4.6% of the total norming sample fell below the mean chance score.

In comparing test performance across grades, it should be noted that the 4th grade students took a different, and easier, level (Elementary) of the test than did the 5th and 6th grade students (Intermediate Level). Thus, while interpretations of trends from 5th to 6th grade is straightforward, in comparisons with 4th grade data, the fact that at least part of their seemingly better performance is due to a relatively easier test should not be overlooked.

TABLE 1

GRADE 4

Percent of children tested scoring below the 15th percentile

Percent of children from families with income less than $3000	0-20	21-40	41-60	61-80	81-100	Total
0-20	71	8	2	0	0	81
21-40	6	4	1	0	0	11
41-60	1	1	1	0	0	4
61-80	1	2	1	0	0	4
81-100	0	0	0	0	0	1
Total	79	15	5	1	0	

TABLE 2

GRADE 5

Percent of children tested scoring below the 15th percentile

Percent of children from families with income less than $3000	0-20	21-40	41-60	61-80	81-100	Total
0-20	69	10	2	0	0	81
21-40	5	4	1	0	0	11
41-60	1	1	1	0	0	4
61-80	1	1	2	0	0	4
81-100	0	0	0	0	0	1
Total	77	16	7	1	0	

TABLE 3

GRADE 6

Percent of children tested scoring below the 15th percentile

Percent of children from families with income less than $3000	0-20	21-40	41-60	61-80	81-100	Total
0-20	69	9	2	0	0	81
21-40	5	3	1	0	0	10
41-60	1	2	1	0	0	4
61-80	0	2	1	1	0	4
81-100	0	0	0	0	0	1
Total	76	17	6	1	0	

TABLE 4

GRADE 4

Percent of children tested scoring below the 15th percentile

Percent of children from families with income between $3000 and $6000	0-20	21-40	41-60	61-80	81-100	Total
0-20	47	5	2	0	0	54
21-40	19	5	1	0	0	26
41-60	9	4	1	0	0	14
61-80	2	1	1	0	0	4
81-100	1	1	0	0	0	2
Total	79	15	5	1	0	

TABLE 5

GRADE 5

Percent of children tested scoring below the 15th percentile

Percent of children from families with income between $3000 and $6000	0-20	21-40	41-60	61-80	81-100	Total
0-20	46	5	2	0	0	53
21-40	18	6	1	0	0	25
41-60	9	4	2	0	0	15
61-80	3	1	1	0	0	5
81-100	1	0	0	0	0	2
Total	77	16	7	1	0	

TABLE 6

GRADE 6

Percent of children tested scoring below the 15th percentile

Percent of children from families with income between $3000 and $6000	0-20	21-40	41-60	61-80	81-100	Total
0-20	46	6	2	1	0	54
21-40	16	7	2	0	0	25
41-60	10	3	1	0	0	14
61-80	3	1	1	0	0	5
81-100	1	0	0	0	0	2
Total	76	17	6	1	0	

TABLE 7

GRADE 4

Percent of children tested scoring below the 25th percentile

Percent of children from families with income less than $3000	0-20	21-40	41-60	61-80	81-100	Total
0-20	53	20	7	1	0	81
21-40	2	4	4	1	0	11
41-60	0	1	2	1	0	4
61-80	1	1	1	1	0	4
81-100	0	0	0	0	0	1
Total	56	26	13	4	0	

TABLE 8

GRADE 5

Percent of children tested scoring below the 25th percentile

Percent of children from families with income less than $3000	0-20	21-40	41-60	61-80	81-100	Total
0-20	53	21	6	1	0	31
21-40	1	5	3	1	0	11
41-60	0	1	1	1	0	4
61-80	0	1	1	2	0	4
81-100	0	0	0	0	0	1
Total	54	28	10	6	1	

TABLE 9

GRADE 6

Percent of children tested scoring below the 25th percentile

Percent of children from families with income less than $3000	0-20	21-40	41-60	61-80	81-100	Total
0-20	51	21	6	2	1	81
21-40	1	5	2	1	0	10
41-60	0	1	1	1	0	4
61-80	0	1	1	2	0	4
81-100	0	0	0	0	0	1
Total	53	29	11	6	2	

TABLE 10

GRADE 4

Percent of children tested scoring below the 25th percentile

Percent of children from families with income between $3000 and $6000	0-20	21-40	41-60	61-80	81-100	Total
0-20	37	11	3	2	0	54
21-40	12	7	5	1	0	26
41-60	5	5	3	1	0	14
61-80	1	1	1	0	0	4
81-100	0	1	1	0	0	2
Total	56	26	13	4	0	

TABLE 11

GRADE 5

Percent of children tested scoring below the 25th percentile

Percent of children from families with income between $3000 and $6000	0-20	21-40	41-60	61-80	81-100	Total
0-20	36	12	3	2	1	53
21-40	10	10	4	1	0	25
41-60	5	5	3	1	0	15
61-80	2	1	1	1	0	5
81-100	1	1	0	0	0	2
Total	54	28	10	6	1	

TABLE 12

GRADE 6

Percent of children tested scoring below the 25th percentile

Percent of children from families with income between $3000 and $6000	0-20	21-40	41-60	61-80	81-100	Total
0-20	35	13	2	2	1	54
21-40	12	7	4	2	0	25
41-60	4	6	3	1	0	14
61-80	1	1	1	1	0	5
81-100	1	1	0	0	0	2
Total	53	29	11	6	2	

TABLE 13

GRADE 4

Percent of children tested scoring below the 35th percentile

Percent of children from families with income less than $3000	0-20	21-40	41-60	61-80	81-100	Total
0-20	31	32	13	4	0	81
21-40	1	3	4	3	0	11
41-60	0	0	2	2	1	4
61-80	0	1	1	1	1	4
81-100	0	0	0	0	0	1
Total	32	36	20	10	2	

TABLE 14

GRADE 5

Percent of children tested scoring below the 35th percentile

Percent of children from families with income less than $3000	0-20	21-40	41-60	61-80	81-100	Total
0-20	31	31	14	3	1	81
21-40	1	2	6	1	1	11
41-60	0	1	1	1	1	4
61-80	0	1	0	2	1	4
81-100	0	0	0	0	1	1
Total	31	35	22	8	4	

TABLE 15

GRADE 6

Percent of children tested scoring below the 35th percentile

Percent of children from families with income less than $3000	0-20	21-40	41-60	61-80	81-100	Total
0-20	31	32	13	4	1	81
21-40	0	3	5	2	0	10
41-60	0	1	1	1	1	4
61-80	0	0	1	2	1	4
81-100	0	0	0	0	0	1
Total	31	35	20	11	3	

TABLE 16

GRADE 4

Percent of children tested scoring below the 35th percentile

Percent of children from families with income between $3000 and $6000	0-20	21-40	41-60	61-80	81-100	Total
0-20	22	21	7	3	1	54
21-40	7	9	5	3	0	26
41-60	3	3	6	3	0	14
61-80	0	2	1	1	0	4
81-100	0	0	1	1	0	2
Total	32	36	20	10	2	

TABLE 17

GRADE 5

Percent of children tested scoring below the 35th percentile

Percent of children from families with income between $3000 and $6000	0-20	21-40	41-60	61-80	81-100	Total
0-20	22	19	8	3	2	53
21-40	5	10	7	2	1	25
41-60	2	4	6	2	1	15
61-80	1	1	1	1	1	5
81-100	0	1	0	0	0	2
Total	31	35	22	8	4	

TABLE 18

GRADE 6

Percent of children tested scoring below the 35th percentile

Percent of children from families with income between $3000 and $6000	0-20	21-40	41-60	61-80	81-100	Total
0-20	22	20	7	4	2	54
21-40	5	10	6	3	1	25
41-60	3	4	4	2	0	14
61-80	1	0	2	1	0	5
81-100	0	1	1	0	0	2
Total	31	35	20	11	3	

TABLE 19

GRADE 4

Percent of children tested scoring below the 50th percentile

Percent of children from families with income less than $3000	0-20	21-40	41-60	61-80	81-100	Total
0-20	8	27	31	11	4	81
21-40	0	1	3	4	2	11
41-60	0	0	0	2	2	4
61-80	0	0	0	1	2	4
81-100	0	0	0	0	1	1
Total	8	28	35	19	10	

TABLE 20

GRADE 5

Percent of children tested scoring below the 50th percentile

Percent of children from families with income less than $3000	0-20	21-40	41-60	61-80	81-100	Total
0-20	8	28	29	14	2	81
21-40	0	1	2	6	2	11
41-60	0	0	1	2	2	4
61-80	0	0	0	1	3	4
81-100	0	0	0	0	1	1
Total	8	29	32	22	9	

TABLE 21

GRADE 6

Percent of children tested scoring below the 50th percentile

Percent of children from families with income less than $3000	0-20	21-40	41-60	61-80	81-100	Total
0-20	7	28	29	12	5	81
21-40	0	0	3	5	2	10
41-60	0	0	0	2	2	4
61-80	0	0	0	1	3	4
81-100	0	0	0	0	1	1
Total	7	28	33	20	12	

TABLE 22

GRADE 4

Percent of children tested scoring below the 50th percentile

Percent of children from families with income between $3000 and $6000	0-20	21-40	41-60	61-80	81-100	Total
0-20	7	18	19	6	3	54
21-40	1	6	10	5	4	26
41-60	0	3	4	6	2	14
61-80	0	1	1	1	1	4
81-100	0	0	1	1	0	2
Total	8	28	35	19	10	

TABLE 23

GRADE 5

Percent of children tested scoring below the 50th percentile

Percent of children from families with income between $3000 and $6000	0-20	21-40	41-60	61-80	81-100	Total
0-20	6	20	16	7	4	53
21-40	1	5	9	8	2	25
41-60	0	2	5	6	2	15
61-80	1	1	0	2	1	5
81-100	0	0	1	0	0	2
Total	8	29	32	22	9	

TABLE 24

GRADE 6

Percent of children tested scoring below the 50th percentile

Percent of children from families with income between $3000 and $6000	0-20	21-40	41-60	61-80	81-100	Total
0-20	5	20	18	6	5	54
21-40	0	5	11	6	3	25
41-60	1	3	4	5	2	14
61-80	1	0	1	1	2	5
81-100	0	0	0	1	0	2
Total	7	28	33	20	12	

BEST COPY AVAILABLE

	0-20	21-40	41-60	61-80	81-100	Total
None	10	1	0	0	0	11
1-10	49	6	1	0	0	56
11-20	13	6	2	0	0	21
21-30	4	3	1	0	0	8
31-40	0	1	1	0	0	2
41-50	1	1	0	0	0	2
51-100	0	0	0	0	0	0
Total	77	18	5	1	0	

TABLE 26

GRADE 5

Percent of children tested scoring below the 15th percentile

Percent of families on welfare	0-20	21-40	41-60	61-80	81-100	Total
None	12	0	0	0	0	12
1-10	48	5	1	0	0	53
11-25	13	8	1	0	0	22
26-50	3	3	1	0	0	8
51-75	0	0	2	0	0	2
76-90	0	0	1	0	0	2
91-100	0	0	0	0	0	0
Total	77	16	7	1	0	

TABLE 27

GRADE 6

Percent of children tested scoring below the 15th percentile

Percent of families on welfare	0-20	21-40	41-60	61-80	81-100	Total
None	12	0	0	0	0	12
1-10	49	5	0	0	0	54
11-25	13	6	2	0	0	21
26-50	2	3	2	0	0	8
51-75	0	1	1	0	0	3
76-90	0	1	1	0	0	2
91-100	0	0	0	0	0	0
Total	76	17	6	1	0	

TABLE 28

GRADE 4

Percent of children tested scoring below the 25th percentile

Percent of families on welfare	0-20	21-40	41-60	61-80	81-100	Total
None	10	1	0	0	0	11
1-10	37	12	4	1	0	54
11-25	6	10	5	1	0	22
26-50	2	3	3	1	0	9
51-75	0	0	1	1	0	2
76-90	0	1	0	0	0	2
91-100	0	0	0	0	0	0
Total	56	26	13	4	0	

TABLE 29

GRADE 5

Percent of children tested scoring below the 25th percentile

Percent of families on welfare	0-20	21-40	41-60	61-80	81-100	Total
None	10	1	0	0	0	12
1-10	37	14	2	0	0	53
11-25	7	9	5	1	0	22
26-50	1	4	2	1	0	8
51-75	0	0	1	1	0	2
76-90	0	0	0	1	0	2
91-100	0	0	0	0	0	0
Total	54	28	10	6	1	

TABLE 30

GRADE 6

Percent of children tested scoring below the 25th percentile

Percent of families on welfare	0-20	21-40	41-60	61-80	81-100	Total
None	10	2	0	0	1	12
1-10	37	14	3	0	0	54
11-25	6	9	4	2	0	21
26-50	0	3	2	2	0	8
51-75	0	0	1	1	0	3
76-90	0	1	0	1	0	2
91-100	0	0	0	0	0	0
Total	53	29	11	6	2	

TABLE 31

GRADE 4

Percent of children tested scoring below the 35th percentile

Percent of families on welfare	0-20	21-40	41-60	61-80	81-100	Total
None	7	3	1	0	0	11
1-10	22	23	7	2	0	54
11-25	2	8	8	4	0	22
26-50	0	3	3	2	0	9
51-75	0	0	0	1	1	2
76-90	0	0	1	0	0	2
91-100	0	0	0	0	0	0
Total	32	36	20	10	2	

TABLE 32

GRADE 5

Percent of children tested scoring below the 35th percentile

Percent of families on welfare	0-20	21-40	41-60	61-80	81-100	Total
None	8	2	1	0	1	12
1-10	20	24	8	1	0	53
11-25	3	6	9	3	1	22
26-50	0	2	3	2	1	8
51-75	0	0	0	1	1	2
76-90	0	0	0	1	1	2
91-100	0	0	0	0	0	0
Total	31	35	22	8	4	

TABLE 33

GRADE 6

Percent of children tested scoring below the 35th percentile

Percent of families on welfare	0-20	21-40	41-60	61-80	81-100	Total
None	8	3	1	0	1	12
1-10	21	24	8	1	0	54
11-25	2	8	7	4	0	21
26-50	0	1	3	3	1	8
51-75	0	0	1	1	1	3
76-90	0	0	0	1	1	2
91-100	0	0	0	0	0	0
Total	31	35	20	11	3	

TABLE 34

GRADE 4

Percent of children tested scoring below the 50th percentile

Percent of families on welfare	0-20	21-40	41-60	61-80	81-100	Total
None	4	4	2	0	1	11
1-10	4	21	21	6	1	54
11-25	0	2	8	8	3	22
26-50	0	0	3	2	3	9
51-75	0	0	0	0	2	2
76-90	0	0	0	1	0	2
91-100	0	0	0	0	0	0
Total	8	28	35	19	10	

TABLE 35

GRADE 5

Percent of children tested scoring below the 50th percentile

Percent of families on welfare	0-20	21-40	41-60	61-80	81-100	Total
None	4	4	2	1	1	12
1-10	4	21	21	8	0	53
11-25	0	4	7	9	2	22
26-50	0	0	2	4	2	8
51-75	0	0	0	1	2	2
76-90	0	0	0	0	2	2
91-100	0	0	0	0	0	0
Total	8	29	32	22	9	

TABLE 36

GRADE 6

Percent of children tested scoring below the 50th percentile

Percent of families on welfare	0-20	21-40	41-60	61-80	81-100	Total
None	4	5	1	1	1	12
1-10	2	22	22	7	1	54
11-25	0	2	9	7	3	21
26-50	0	0	1	3	3	8
51-75	0	0	0	1	2	3
76-90	0	0	0	0	2	2
91-100	0	0	0	0	0	0
Total	7	28	33	20	12	

TABLE 37

NORTHERN STATES

SCHOOL LOCATION

		Large City >500,000	Large City 200,000 to 500,000	Suburb of Large City	Rural Area Near Large City	Middle-Size City 50,000 to 200,000	Suburb of Middle-Size City	Rural Area Near Middle-Size City	Small City <50,000	Rural Area
					Grade 4					
Percentile Rank on MAT	<15	26	22	8	10	11	7	8	8	10
	<25	42	36	16	21	20	15	16	16	20
	<35	54	46	24	31	30	24	26	25	31
	<50	69	61	39	46	46	41	41	42	47
	<75	86	83	67	74	73	68	69	70	74
					Grade 5					
Percentile Rank on MAT	<15	28	27	7	10	11	6	9	8	10
	<25	42	39	15	19	21	13	17	17	20
	<35	52	49	22	28	29	21	27	26	30
	<50	67	64	37	44	44	37	44	42	46
	<75	85	84	66	73	72	67	73	69	74
					Grade 6					
Percentile Rank on MAT	<15	27	27	8	11	10	6	9	8	9
	<25	41	40	16	21	20	14	19	17	18
	<35	52	48	23	30	28	24	29	26	28
	<50	68	63	40	49	46	41	47	43	45
	<75	86	84	69	75	73	69	75	72	72

TABLE 38

SOUTHERN STATES

SCHOOL LOCATION

		Large City >500,000	Large City 200,000 to 500,000	Suburb of Large City	Rural Area Near Large City	Middle-Size City 50,000 to 200,000	Suburb of Middle-Size City	Rural Area Near Middle-Size City	Small City <50,000	Rural Area
					Grade 4					
Percentile Rank on MAT	<15	36	23	13	19	21	15	26	22	28
	<25	51	36	22	33	32	26	41	34	43
	<35	62	46	30	43	42	37	51	44	54
	<50	75	60	47	59	56	52	65	59	69
	<75	89	81	72	80	77	78	86	81	86
					Grade 5					
Percentile Rank on MAT	<15	37	28	17	21	17	16	27	23	30
	<25	52	44	27	33	26	24	41	36	44
	<35	62	53	37	42	37	34	53	46	55
	<50	75	68	52	58	50	49	69	60	70
	<75	89	86	76	82	73	74	89	81	87
					Grade 6					
Percentile Rank on MAT	<15	33	30	15	24	18	18	25	25	31
	<25	49	45	26	37	28	28	40	37	45
	<35	60	57	36	47	36	39	51	47	56
	<50	74	70	53	62	49	57	68	62	70
	<75	89	87	78	84	71	80	88	81	88

TABLE 39

NORTHERN STATES

SCHOOL LOCATION

		Large City >500,000	Large City 200,000 to 500,000	Suburb of Large City	Rural Area Near Large City	Middle-Size City 50,000 to 200,000	Suburb of Middle-Size City	Rural Area Near Middle-Size City	Small City <50,000	Rural Area
					Grades 4, 5, and 6 combined					
Percentile Rank on MAT	<15	27	25	8	11	11	6	9	8	10
	<25	42	38	15	21	20	14	17	17	19
	<35	53	48	23	30	29	23	27	26	30
	<50	68	63	39	46	45	40	44	42	46
	<75	86	83	68	74	72	68	72	70	73

SOUTHERN STATES

SCHOOL LOCATION

		Large City >500,000	Large City 200,000 to 500,000	Suburb of Large City	Rural Area Near Large City	Middle-Size City 50,000 to 200,000	Suburb of Middle-Size City	Rural Area Near Middle-Size City	Small City <50,000	Rural Area
					Grades 4, 5, and 6 combined					
Percentile Rank on MAT	<15	35	27	15	22	19	16	26	23	30
	<25	51	41	25	35	29	26	40	36	44
	<35	61	51	34	44	38	36	52	46	55
	<50	75	66	51	60	51	52	67	60	70
	<75	89	85	75	82	73	77	88	81	87

TABLE 40

Correlations of Test Performance with Demographic Variables

GRADE 4

Percent of children in school	< 15th percentile on MAT	< 25th percentile on MAT	< 35th percentile on MAT	< 50th percentile on MAT
from families with income < $3000	.53	.57	.56	.55
from families with income < $6000	.53	.58	.61	.61
from families with income $3000-$6000	.29	.32	.37	.39
from families on public welfare	.54	.56	.57	.54
who are minority group members	.66	.66	.62	.59
who need remediation	.23	.26	.26	.23
who need remediation or don't know	.21	.23	.30	.24
with IQ < 75	.50	.51	.49	.43
with IQ < 90	.43	.50	.52	.50
for whom English is not principal language	.23	.24	.22	.22

GRADE 5

Percent of children in school	< 15th percentile on MAT	< 25th percentile on MAT	< 35th percentile on MAT	< 50th percentile on MAT
from families with income < $3000	.60	.66	.59	.57
from families with income < $6000	.55	.60	.56	.57
from families with income $3000-$6000	.25	.27	.26	.30
from families on public welfare	.66	.69	.62	.60
who are minority group members	.75	.76	.69	.62
who need remediation	.18	.19	.30	.29
who need remediation or don't know	.20	.19	.25	.21
with IQ < 75	.42	.43	.40	.37
with IQ < 90	.48	.51	.47	.47
for whom English is not principal language	.26	.31	.29	.27

GRADE 6

Percent of children in school	< 15th percentile on MAT	< 25th percentile on MAT	< 35th percentile on MAT	< 50th percentile on MAT
from families with income < $3000	.63	.57	.60	.57
from families with income < $6000	.58	.53	.57	.56
from families with income $3000-$6000	.26	.24	.27	.28
from families on public welfare	.67	.60	.63	.61
who are minority group members	.75	.67	.68	.62
who need remediation	.25	.23	.22	.21
who need remediation or don't know	.24	.20	.19	.16
with IQ < 75	.54	.49	.47	.43
with IQ < 90	.55	.52	.52	.48
for whom English is not principal language	.32	.28	.30	.27

TABLE 41

Intercorrelations of Demographic Variables

GRADE 4

Percent of children	Family Income < $3000 (1)	Family Income < $6000 (2)	Family Income $3000-$6000 (3)	Public Welfare (4)	Minority Group Member (5)	Remediation Need (6)	Remediation Need or don't know (7)	IQ < 75 (8)	IQ < 90 (9)
(1) < $3000									
(2) < $6000	---								
(3) $3000-$6000	---	---							
(4) Public welfare	.72	.63	.26						
(5) Minority group	.63	.51	.15	.69					
(6) Need remediation	.14	.27	.27	.18	.13				
(7) Need or don't know	.15	.22	.18	.15	.18	---			
(8) IQ < 75	.34	.32	.15	.26	.38	.24	.22		
(9) IQ < 90	.40	.41	.23	.29	.37	.22	.20	---	
(10) ESL	.26	.18	.03	.20	.39	.03	.09	.11	.09

GRADE 5

Percent of children	Family Income < $3000 (1)	Family Income < $6000 (2)	Family Income $3000-$6000 (3)	Public Welfare (4)	Minority Group Member (5)	Remediation Need (6)	Remediation Need or don't know (7)	IQ < 75 (8)	IQ < 90 (9)
(1) < $3000									
(2) < $6000	---								
(3) $3000-$6000	---	---							
(4) Public welfare	.72	.63	.25						
(5) Minority group	.62	.49	.15	.71					
(6) Need remediation	.10	.22	.22	.20	.13				
(7) Need or don't know	.10	.19	.19	.17	.14	---			
(8) IQ < 75	.32	.28	.11	.18	.29	.14	.11		
(9) IQ < 90	.35	.35	.18	.27	.33	.13	.08	---	
(10) ESL	.29	.21	.04	.24	.42	.03	.06	.03	.07

GRADE 6

Percent of children	Family Income < $3000 (1)	Family Income < $6000 (2)	Family Income $3000-$6000 (3)	Public Welfare (4)	Minority Group Member (5)	Remediation Need (6)	Remediation Need or don't know (7)	IQ < 75 (8)	IQ < 90 (9)
(1) < $3000									
(2) < $6000	---								
(3) $3000-$6000	---	---							
(4) Public welfare	.72	.63	.25						
(5) Minority group	.63	.49	.13	.72					
(6) Need remediation	.20	.26	.19	.30	.15				
(7) Need or don't know	.16	.17	.10	.24	.17	---			
(8) IQ < 75	.30	.30	.16	.31	.38	.18	.15		
(9) IQ < 90	.36	.39	.23	.31	.35	.13	.09	---	
(10) ESL	.34	.21	.00	.28	.46	.03	.08	.08	.09

INDIVIDUAL MAT (1970 ED. FORM F, ELEMENTARY 1 DISTRIBUTIONS FOR ANCHOR RESTANDARDIZATION TOTAL SAMPLE AND SELECTED SUBGROUPS
GRADE 4: WORD KNOWLEDGE

RAW SCORE	WHITE CHILDREN WTD. FREQ.	WHITE CHILDREN CUM. PERCENT	BLACK CHILDREN WTD. FREQ.	BLACK CHILDREN CUM. PERCENT	SPANISH-SURNAMED CHILDREN WTD. FREQ.	SPANISH-SURNAMED CHILDREN CUM. PERCENT	AT LEAST 25% WITH INCOME < $3000 WTD. FREQ.	AT LEAST 25% WITH INCOME < $3000 CUM. PERCENT	AT LEAST 50% WITH INCOME < $6000 WTD. FREQ.	AT LEAST 50% WITH INCOME < $6000 CUM. PERCENT	ENGLISH NOT PRINCIPAL LANGUAGE WTD. FREQ.	ENGLISH NOT PRINCIPAL LANGUAGE CUM. PERCENT	TOTAL NORMING SAMPLE WTD. FREQ.	TOTAL NORMING SAMPLE CUM. PERCENT
50	33911	100.0	296	100.0	98	100.0	2370	100.0	6138	100.0	178	100.0	34589	100.0
49	81121	98.8	837	99.9	168	99.9	5476	99.6	13289	99.5	732	99.9	83103	99.1
48	124328	96.0	1605	99.8	1614	99.9	8378	98.8	22157	98.4	1095	99.3	128677	96.8
47	160596	91.6	3445	99.5	1085	99.0	11582	97.5	28609	96.5	1488	98.6	167019	93.2
46	182022	85.9	4431	98.8	3066	98.4	16425	95.7	38518	94.1	2014	97.5	192627	88.7
45	186428	79.5	6079	98.0	3680	96.8	18032	93.2	42116	90.9	2521	96.1	199143	83.4
44	173283	73.0	8028	96.9	3149	94.9	19424	90.5	44906	87.3	2147	94.2	186346	77.9
43	157239	66.9	7280	95.4	3616	93.3	18301	87.5	40684	83.6	2598	92.7	171926	72.8
42	149069	61.4	8543	94.0	4909	91.4	18598	84.7	41129	80.1	3530	90.8	166007	68.1
41	140419	56.1	9138	92.4	5453	88.6	18536	81.8	40287	76.7	3207	88.3	158646	63.5
40	128399	51.2	10193	90.7	4664	85.9	17541	79.0	38961	73.3	2676	85.9	146299	59.2
39	102422	46.7	11126	88.8	5604	83.5	16843	76.3	34948	70.0	3056	84.0	122747	55.2
38	102509	43.0	11495	86.8	5062	80.6	16189	73.7	34511	67.1	2171	81.4	121415	51.3
37	87482	39.4	11732	84.6	5036	77.9	17134	71.3	34553	64.2	2700	79.9	108534	48.3
36	82282	36.4	13543	82.4	5392	75.3	16915	68.6	34060	61.3	3691	77.8	104916	45.3
35	67706	33.5	11508	79.9	5576	72.4	15173	66.0	27433	58.4	3391	75.2	86444	42.7
34	70880	31.1	10838	77.8	5446	69.5	15702	63.7	30863	56.1	3582	72.7	89046	40.3
33	61282	28.6	12237	75.7	5513	66.7	15053	61.3	29286	53.5	4275	70.2	82252	37.9
32	58508	26.4	11520	73.4	4267	63.8	16088	59.0	28708	51.1	3011	67.1	78491	35.6
31	55459	24.4	13559	71.3	5488	61.5	15329	56.5	28560	48.7	3686	65.0	76919	33.5
30	51502	22.4	13084	68.7	3576	58.7	12977	54.2	24597	46.3	2102	62.3	69832	31.4
29	44967	20.6	12289	66.3	5544	56.8	13949	52.2	25950	44.2	4137	60.8	64995	29.5
28	44196	19.0	13217	64.0	5413	53.9	13543	50.1	24756	42.0	3452	57.9	63439	27.7
27	38129	17.5	12679	61.5	4305	51.0	12191	48.0	24417	39.9	3175	55.4	58464	25.9
26	38207	16.1	13705	59.2	5336	48.8	16017	46.1	25926	37.9	3277	53.1	58783	24.4
25	34822	14.8	12758	56.6	4373	46.0	14276	43.7	21994	35.7	3183	50.8	52910	22.8
24	32364	13.6	13584	54.2	5481	43.7	15589	41.5	24163	33.9	4052	48.5	53823	21.4
23	34049	12.4	14926	51.7	4171	40.8	14179	39.1	22592	31.8	3522	45.6	54419	19.9
22	32219	11.2	14290	48.9	5380	38.6	15864	36.9	25653	29.9	4182	43.1	52962	18.4
21	28338	10.1	16423	46.3	5802	35.8	15949	34.5	25475	27.8	4208	40.1	52123	16.9
20	30046	9.1	17420	43.2	5544	32.8	16844	32.1	25627	25.6	3787	37.1	53775	15.5
19	29038	8.0	17762	40.0	5638	29.9	17010	29.5	26755	23.5	4281	34.4	53407	14.0
18	25667	7.0	18970	36.6	5260	26.9	16948	26.9	26044	21.2	4435	31.4	51229	12.6
17	25444	6.1	19979	33.1	5135	24.2	18647	24.3	26996	19.0	3972	28.2	51541	11.2
16	26395	5.2	22272	29.4	6300	21.5	20961	21.4	30751	16.8	4632	25.4	56081	9.8
15	21565	4.3	19509	25.2	5259	18.2	17863	18.2	25226	14.2	5194	22.0	47647	8.2
14	20071	3.5	17887	21.6	3880	15.4	16608	15.5	23818	12.1	3694	18.3	43435	6.9
13	18085	2.9	17760	18.2	5363	13.4	15132	12.9	22350	10.1	4593	15.7	42339	5.7
12	15530	2.2	16632	14.9	4455	10.6	14749	10.5	21307	8.2	3795	12.4	37179	4.6
11	12308	1.7	14352	11.8	3742	8.2	11738	8.2	17202	6.4	2843	9.7	31177	3.5
10	8441	1.2	13032	9.2	3193	6.3	10276	6.4	15032	5.0	2715	7.7	29416	2.7
9	7459	0.9	10083	6.7	2461	4.6	8480	4.9	12307	3.7	1982	5.7	20209	2.0
8	6168	0.7	6579	4.9	1965	3.3	6146	3.6	8365	2.7	1649	4.3	14900	1.4
7	4277	0.4	6792	3.6	1157	2.3	6388	2.6	8392	2.0	1491	3.1	12866	1.0
6	2883	0.3	4364	2.3	659	1.7	3209	1.7	4618	1.3	668	2.1	8041	0.7
5	2243	0.2	3403	1.5	843	1.3	2755	1.2	4000	0.9	788	1.6	6682	0.5
4	1487	0.1	2556	0.9	892	0.9	2561	0.7	3484	0.5	676	1.0	5015	0.3
3	400	0.1	1460	0.4	490	0.4	1489	0.4	1842	0.2	435	0.5	2609	0.1
2	977	0.0	404	0.1	157	0.1	569	0.1	769	0.1	196	0.2	1636	0.1
1	345	0.0	385	0.1	126	0.1	251	0.0	304	0.0	120	0.1	856	0.0
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
N	2843567		536099		190786		652907		1190628		139961		3647474	
MEAN	37.1		24.3		27.0		28.2		30.4		26.0		34.5	
S.D.	9.9		10.9		11.1		12.0		11.9		11.4		11.2	

INDIVIDUAL MAT (1970 ED. FORM F, INTERMEDIATE) DISTRIBUTIONS FOR ANCHOR RESTANDARDIZATION TOTAL SAMPLE AND SELECTED SUBGROUPS
GRADE 5: WORD KNOWLEDGE

RAW SCORE	WHITE CHILDREN WTD. FREQ.	WHITE CHILDREN CUM. PERCENT	BLACK CHILDREN WTD. FREQ.	BLACK CHILDREN CUM. PERCENT	SPANISH-SURNAMED CHILDREN WTD. FREQ.	SPANISH-SURNAMED CHILDREN CUM. PERCENT	AT LEAST 25% WITH INCOME < $3000 WTD. FREQ.	AT LEAST 25% WITH INCOME < $3000 CUM. PERCENT	AT LEAST 50% WITH INCOME < $6000 WTD. FREQ.	AT LEAST 50% WITH INCOME < $6000 CUM. PERCENT	ENGLISH NOT PRINCIPAL LANGUAGE WTD. FREQ.	ENGLISH NOT PRINCIPAL LANGUAGE CUM. PERCENT	TOTAL NORMING SAMPLE WTD. FREQ.	TOTAL NORMING SAMPLE CUM. PERCENT
50	8046	100.0	0	100.0	48	100.0	508	100.0	1657	100.0	0	100.0	8202	100.0
49	16569	99.7	239	100.0	64	100.0	854	99.9	2308	99.9	53	100.0	17174	99.3
48	29814	99.2	406	100.0	219	99.9	1784	99.8	4156	99.7	204	100.0	30933	99.3
47	39602	98.1	714	99.9	407	99.8	2294	99.5	6017	99.3	463	99.8	41347	98.5
46	48908	96.8	609	99.7	461	99.6	3319	99.2	7895	98.9	213	99.4	50607	97.4
45	58663	95.1	930	99.6	285	99.4	3747	98.7	9983	98.2	336	99.3	61070	95.3
44	64609	93.1	1095	99.4	783	99.2	5191	98.1	12498	97.4	357	99.0	67412	94.4
43	73249	90.9	2583	99.2	871	98.8	5699	97.3	13497	96.4	345	98.7	77853	92.6
42	80363	88.4	2126	98.8	1150	98.3	6890	96.4	14864	95.3	608	98.4	84779	90.5
41	88737	85.7	2573	98.3	1535	97.7	9146	95.6	20789	94.1	1385	97.9	94749	88.2
40	91553	82.7	2149	97.9	1511	96.9	7360	94.2	20071	92.5	709	96.8	96680	85.7
39	96142	79.5	2558	97.4	1887	96.1	8311	93.1	21168	90.8	1194	96.3	102255	83.1
38	100599	76.3	2737	97.0	1810	95.1	8647	91.8	23086	89.1	1370	95.3	106423	80.3
37	106662	72.8	2782	96.4	2066	94.1	8924	90.5	25163	87.4	1351	94.2	113114	77.5
36	106517	69.2	4402	95.9	2508	93.0	9587	89.1	24508	85.3	1219	93.1	115104	74.4
35	110395	65.6	5289	95.1	3110	91.7	11232	87.7	29497	83.3	1642	92.2	120215	71.4
34	106145	61.8	5173	94.1	3032	90.0	9636	85.9	28077	80.9	1273	90.9	116573	68.1
33	103838	58.2	5536	93.1	2992	88.4	11439	84.4	25589	78.7	1897	89.8	113865	65.0
32	104391	54.6	5644	92.0	3779	86.8	12834	82.7	31909	76.6	1640	88.3	115946	61.8
31	105128	51.1	7608	91.0	4115	84.8	15874	80.7	32596	74.0	1235	87.0	119147	58.8
30	106334	47.5	7473	89.5	4780	82.6	13631	78.3	31981	71.4	2145	86.0	120500	55.6
29	99164	43.9	8538	88.1	4885	80.1	15190	76.2	33909	68.8	2342	84.3	115172	52.4
28	102253	40.5	9739	86.5	4312	77.5	15616	73.8	35963	66.1	2688	82.4	118246	49.3
27	91688	37.0	11582	84.6	4970	75.2	16951	71.4	36133	63.2	3022	80.3	110453	46.1
26	95294	33.9	11373	82.4	4911	72.5	19315	68.8	36293	60.3	2975	77.9	113948	43.2
25	89692	30.6	12103	80.3	6422	69.9	17249	65.9	38113	57.4	2937	75.5	109698	40.1
24	85835	27.6	15100	78.0	5259	66.5	21541	63.2	40984	54.3	3887	73.1	108706	37.2
23	82312	24.6	15452	75.1	7000	63.7	19923	59.9	39572	51.0	4761	70.0	106401	34.3
22	78627	21.8	18826	72.2	6261	60.0	23495	56.8	41089	47.8	3161	66.2	105656	31.4
21	77385	19.1	20684	68.6	7527	56.6	24422	53.2	40380	44.5	4562	63.7	104556	28.5
20	67084	16.5	21901	64.7	6948	52.6	23761	49.4	42855	40.8	4817	60.1	98637	25.5
19	65585	14.2	24242	60.5	9492	48.9	24125	45.8	46873	37.3	6232	56.2	102811	22.9
18	59131	12.0	24979	55.9	8396	43.9	26040	41.4	45300	33.6	5413	51.2	94344	20.2
17	52465	10.0	28010	51.2	9735	39.4	28029	37.4	46818	29.9	8115	46.9	93804	17.7
16	45244	8.2	28598	45.8	9418	34.2	27993	33.1	44062	26.1	6369	40.4	85755	15.1
15	40111	6.6	31117	40.4	9473	29.2	28761	28.8	46472	22.6	7385	35.3	82833	12.8
14	37590	5.3	31527	34.5	8773	24.2	30299	24.4	45753	18.9	7624	29.4	79950	10.6
13	28134	4.0	30334	28.5	7703	19.5	28539	19.7	40278	15.2	5935	23.3	66409	8.5
12	24437	3.0	25453	22.8	6455	15.4	21086	15.6	32714	11.9	5024	18.6	57638	6.9
11	18176	2.2	22338	18.0	6552	12.0	19970	12.4	30121	9.3	5772	14.6	49186	5.1
10	13345	1.6	20245	13.7	4508	8.5	17101	9.3	23839	6.9	3188	10.0	40096	3.8
9	11447	1.1	14992	9.9	3985	6.1	13775	6.7	19399	5.0	3570	7.4	32275	2.7
8	7748	0.7	11978	7.6	2378	3.9	10560	4.6	13553	3.4	1924	4.6	22932	1.8
7	4955	0.5	7408	4.8	1896	2.7	5596	2.9	8679	2.3	1213	3.0	15068	1.2
6	3485	0.3	6933	3.4	1318	1.7	6433	2.1	8580	1.6	1074	2.1	12140	0.8
5	2888	0.2	4066	2.0	717	1.0	3080	1.1	4593	0.9	693	1.2	7771	0.5
4	975	0.1	3310	1.3	480	0.6	1829	0.6	2899	0.5	390	0.7	4939	0.3
3	635	0.0	1971	0.6	310	0.3	1287	0.3	1967	0.3	233	0.3	2969	0.1
2	392	0.0	997	0.3	51	0.2	789	0.1	967	0.1	0	0.2	1440	0.1
1	289	0.0	391	0.1	250	0.1	162	0.0	481	0.0	198	0.2	930	0.0
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
N	2932531		526519		187799		650064		1742468		125143		3726951	
MEAN	30.6		18.8		21.4		22.3		24.3		20.1		28.4	
S.D.	9.5		8.4		8.9		9.8		10.1		8.9		10.4	

INDIVIDUAL MAT (1970 ED. FORM F, INTERMEDIATE) DISTRIBUTIONS FOR ANCHOR RESTANDARDIZATION TOTAL SAMPLE AND SELECTED SUBGROUPS
GRADE 6: WORD KNOWLEDGE

RAW SCORE	WHITE CHILDREN WTD. FREQ.	WHITE CHILDREN CUM. PERCENT	BLACK CHILDREN WTD. FREQ.	BLACK CHILDREN CUM. PERCENT	SPANISH-SURNAMED CHILDREN WTD. FREQ.	SPANISH-SURNAMED CHILDREN CUM. PERCENT	AT LEAST 25% WITH INCOME < $3000 WTD. FREQ.	AT LEAST 25% WITH INCOME < $3000 CUM. PERCENT	AT LEAST 50% WITH INCOME < $6000 WTD. FREQ.	AT LEAST 50% WITH INCOME < $6000 CUM. PERCENT	ENGLISH NOT PRINCIPAL LANGUAGE WTD. FREQ.	ENGLISH NOT PRINCIPAL LANGUAGE CUM. PERCENT	TOTAL NORMING SAMPLE WTD. FREQ.	TOTAL NORMING SAMPLE CUM. PERCENT
50	27388	100.0	325	100.0	247	100.0	1844	100.0	3690	100.0	138	100.0	23805	100.0
49	55956	99.2	602	99.9	433	99.9	3217	99.7	9851	99.7	358	99.9	57612	99.3
48	77800	97.2	539	99.8	614	99.6	2807	99.1	11768	98.8	324	99.6	79953	97.7
47	96167	94.5	1238	99.7	875	99.3	5658	98.6	16250	97.8	876	99.3	100047	95.5
46	108246	91.1	2520	99.4	1542	98.8	6492	97.6	20792	96.4	673	98.5	113846	92.7
45	109027	87.3	1511	98.9	1327	97.9	6950	96.5	18271	94.6	811	97.9	113479	89.5
44	124848	83.5	2482	98.6	2023	97.2	8791	95.3	20950	93.0	1125	97.2	131582	85.4
43	125455	79.1	2478	98.1	1243	96.0	8243	93.7	24871	90.7	1563	96.3	131522	82.7
42	120689	74.7	4186	97.6	1765	95.3	9256	92.3	25891	88.5	1008	94.9	128610	79.0
41	123033	70.5	4094	96.7	3005	94.3	10324	90.6	26604	86.2	1282	94.1	132235	75.4
40	125543	66.1	4579	95.9	3537	92.6	12000	88.8	32122	83.9	1773	93.0	136813	71.7
39	123943	61.7	5430	94.9	3637	90.6	11404	86.7	32568	81.1	1643	91.4	135335	67.9
38	123475	57.4	6482	93.8	3690	88.6	13454	84.7	33323	78.3	2180	90.0	136536	64.2
37	117588	53.0	7522	92.5	3527	86.5	13252	82.3	32977	75.4	2148	88.2	130810	60.3
36	109320	48.9	8054	90.9	5066	84.5	16169	80.0	33276	72.5	2321	86.3	125112	55.7
35	109469	45.1	8437	89.3	4781	81.6	14717	77.2	35141	69.6	2220	84.3	124787	53.2
34	104629	41.2	9207	87.5	4312	78.9	15880	74.6	34731	66.6	2202	82.4	121013	49.7
33	94039	37.5	9014	85.7	5795	76.5	13912	71.8	31738	63.6	2262	80.5	111282	46.4
32	90566	34.2	10618	83.8	3994	73.2	17238	69.3	34609	60.8	2786	78.5	108039	43.3
31	88160	31.1	11066	81.6	5298	71.0	15598	66.3	34190	57.8	3525	76.1	106693	40.2
30	77064	28.0	11764	79.3	4877	68.0	14071	63.5	31820	54.8	2159	73.1	95415	37.3
29	71945	25.2	11246	76.9	4479	65.2	14749	61.1	32322	52.1	2040	71.2	89203	34.5
28	67949	22.7	14330	74.6	4887	62.7	15839	58.5	32292	49.3	2593	69.5	89843	32.1
27	62705	20.3	14598	71.6	5808	59.9	15733	55.7	33234	46.4	3049	67.3	86058	29.5
26	60480	18.1	14045	68.6	5529	56.6	16237	52.9	31642	43.6	3204	64.6	81743	27.2
25	49803	16.0	15398	65.7	5337	53.5	15391	50.1	29662	40.8	2907	61.9	72446	24.7
24	53598	14.3	16970	62.6	5281	50.5	18776	47.4	34745	38.2	3690	59.4	78421	22.9
23	45842	12.4	19532	59.1	5203	47.5	17527	44.1	31611	35.2	4027	56.2	72610	20.7
22	43500	10.8	19405	55.1	6123	44.6	18247	41.0	33577	32.5	3553	52.7	70492	18.7
21	36491	9.2	18663	51.1	5676	41.1	18190	37.8	30410	29.6	4115	49.7	62500	16.7
20	33582	8.0	21353	47.2	7292	37.9	19956	34.6	32971	26.9	5036	46.1	64006	15.0
19	32407	6.8	20940	42.8	5612	33.8	18739	31.0	32120	24.1	4565	41.8	61313	13.2
18	29144	5.6	21349	38.5	5869	30.6	20406	27.8	33150	21.3	4034	37.9	57829	11.5
17	26966	4.6	21736	34.1	5875	27.3	19847	24.2	32619	18.4	5170	34.4	56655	9.9
16	19051	3.7	20295	29.6	6502	24.0	17073	20.7	27012	15.6	5106	29.9	47260	8.3
15	16479	3.0	20569	25.5	6767	20.3	17982	17.7	27572	13.2	5284	25.5	44837	7.0
14	15638	2.4	19014	21.2	5785	16.5	16617	14.5	24667	10.8	4525	21.0	41939	5.7
13	14206	1.9	17366	17.3	5975	13.2	14119	11.6	23793	8.7	4039	17.1	38348	4.5
12	11299	1.4	14765	13.6	4227	9.9	12715	8.7	18752	6.6	3917	13.0	30678	3.5
11	7903	1.0	13485	10.6	4161	7.5	9724	6.5	15425	5.0	3160	9.6	25897	2.6
10	6813	0.7	10111	7.8	2523	5.1	8137	4.8	12233	3.6	2552	6.9	20035	1.9
9	4632	0.5	8935	5.7	2538	3.7	6523	3.4	10355	2.6	2509	4.7	16560	1.3
8	3651	0.3	6231	3.9	1414	2.3	3946	2.2	6756	1.7	957	2.5	11478	0.9
7	1375	0.2	5108	2.6	757	1.5	3075	1.5	4598	1.1	452	1.7	7240	0.6
6	1578	0.1	2880	1.6	845	1.0	2263	1.0	3365	0.7	774	1.3	5410	0.4
5	503	0.1	2454	1.0	335	0.5	1790	0.6	2143	0.4	399	0.7	3292	0.2
4	641	0.0	1484	0.5	363	0.4	1021	0.3	1600	0.2	60	0.3	2488	0.1
3	127	0.0	546	0.2	124	0.2	386	0.1	572	0.1	62	0.3	797	0.0
2	139	0.0	89	0.0	102	0.1	111	0.0	224	0.0	187	0.2	330	0.0
1	126	0.0	94	0.0	48	0.0	0	0.0	53	0.0	48	0.0	268	0.0
0	49	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	49	0.0
N	2843027		485637		177021		568406		1151508		116278		3586310	
MEAN	35.2		22.4		25.1		26.3		28.6		23.5		32.9	
S.D.	9.1		9.3		10.0		10.5		10.7		10.1		10.3	

INDIVIDUAL MAT (1970 ED. FORM F, ELEMENTARY) DISTRIBUTIONS FOR ANCHOR RESTANDARDIZATION TOTAL SAMPLE AND SELECTED SUBGROUPS
GRADE 4: READING COMPREHENSION

RAW SCORE	WHITE CHILDREN WTD. FREQ.	WHITE CHILDREN CUM. PERCENT	BLACK CHILDREN WTD. FREQ.	BLACK CHILDREN CUM. PERCENT	SPANISH-SURNAMED CHILDREN WTD. FREQ.	SPANISH-SURNAMED CHILDREN CUM. PERCENT	AT LEAST 25% WITH INCOME < $3000 WTD. FREQ.	AT LEAST 25% WITH INCOME < $3000 CUM. PERCENT	AT LEAST 50% WITH INCOME < $6000 WTD. FREQ.	AT LEAST 50% WITH INCOME < $6000 CUM. PERCENT	ENGLISH NOT PRINCIPAL LANGUAGE WTD. FREQ.	ENGLISH NOT PRINCIPAL LANGUAGE CUM. PERCENT	TOTAL NORMING SAMPLE WTD. FREQ.	TOTAL NORMING SAMPLE CUM. PERCENT
45	5245	100.0	33	100.0	0	100.0	230	100.0	956	100.0	0	100.0	5327	100.0
44	23412	99.8	0	100.0	169	100.0	1310	100.0	3280	99.9	87	100.0	24030	99.9
43	53999	99.0	225	100.0	242	99.9	3726	99.8	8839	99.6	363	99.9	55010	99.2
42	84758	97.1	1179	100.0	425	99.8	5601	99.2	15874	98.9	450	99.7	87167	97.7
41	101360	94.1	2464	99.7	1373	99.6	9519	98.3	21064	97.6	1275	99.4	106310	95.3
40	121627	90.5	2425	99.3	2056	98.8	9096	96.9	23154	95.8	1440	98.4	127607	92.6
39	130606	86.3	2780	98.8	2016	97.8	11598	95.5	26846	93.9	1302	97.4	137502	88.9
38	126704	81.7	3918	98.3	2433	96.7	11964	93.7	27072	91.6	2223	96.5	135509	85.1
37	125504	77.2	3902	97.6	3000	95.4	12084	91.9	26739	89.3	1875	94.9	134250	81.4
36	121635	72.8	5060	96.8	3428	93.9	13220	90.0	28772	87.1	2336	93.6	132431	77.7
35	120523	68.5	5020	95.9	3359	92.1	11105	88.0	29362	84.7	2732	91.9	130920	74.1
34	108071	64.3	6480	95.0	3473	90.3	15075	86.3	30713	82.2	3004	89.9	121295	70.5
33	101137	60.5	6423	93.8	4727	88.5	14431	84.0	30849	79.6	2948	87.8	115535	67.2
32	97284	56.9	7972	92.6	4124	86.0	15427	81.8	29204	77.0	3012	85.7	112186	64.0
31	98675	53.5	8011	91.1	4662	83.8	13575	79.4	30174	74.6	3553	83.5	114308	60.9
30	95393	50.0	8790	89.6	4700	81.4	14974	77.3	31727	72.0	2763	81.0	110740	57.8
29	90425	46.7	9627	87.9	6142	78.9	13724	75.0	29459	69.4	2776	79.0	108423	54.8
28	89321	43.5	10728	86.1	5840	75.7	16971	72.9	33948	66.9	3971	77.0	109242	51.8
27	86729	40.4	12047	84.1	5323	72.7	16661	70.3	34803	64.0	3366	74.2	105533	48.8
26	82570	37.3	12675	81.9	6289	69.9	16323	67.8	33248	61.1	4438	71.8	103768	45.9
25	84228	34.4	13096	79.5	5923	66.6	18282	65.3	35312	58.3	4595	69.6	105860	43.1
24	79676	31.5	15324	77.1	5945	63.5	20346	62.5	36753	55.4	4123	65.4	103530	40.2
23	85167	28.7	15419	74.2	6864	60.4	21718	59.4	39847	52.3	5116	62.4	109740	37.3
22	78267	25.7	19381	71.3	6813	56.8	22858	56.0	40082	48.9	4659	58.8	107772	34.3
21	73604	22.9	21051	67.7	8408	53.2	22141	52.5	41874	45.6	6346	55.4	105289	31.4
20	72422	20.3	22296	63.8	7950	48.8	23744	49.1	40945	42.1	4954	50.9	104518	28.5
19	68200	17.8	23094	59.6	7556	44.6	23485	45.5	42735	38.6	4995	47.4	100858	25.6
18	64379	15.4	25010	55.3	7115	40.6	26129	41.9	43043	35.0	5414	43.8	98639	22.8
17	58813	13.1	25012	50.7	8620	36.9	25246	37.9	42120	31.4	5306	39.9	94597	20.1
16	54225	11.0	25481	46.0	9432	32.4	25392	34.0	39273	27.9	7318	36.1	92279	17.5
15	49505	9.1	26886	41.3	6204	27.5	26921	30.2	42044	24.6	4935	30.9	85764	15.0
14	41677	7.4	28096	36.2	7297	24.2	24537	26.0	40122	21.0	5776	27.4	79884	12.7
13	39152	5.9	30336	30.9	7949	20.4	28357	22.3	40620	17.7	6791	23.2	79357	10.5
12	38790	4.5	29685	25.2	7152	16.2	26710	17.9	39409	14.3	6249	18.4	77590	8.3
11	28944	3.2	26782	19.7	6543	12.5	24683	13.8	35767	10.9	5081	13.9	64072	6.2
10	20541	2.2	22467	14.7	5001	9.0	20553	10.1	28194	7.9	3917	10.3	49694	4.4
9	15315	1.4	17895	10.5	4242	6.4	15231	6.9	21849	5.6	3721	7.5	38060	3.1
8	11010	0.9	15707	7.2	3323	4.2	12305	4.6	18488	3.7	2990	4.8	30600	2.0
7	6638	0.5	8596	4.2	2087	2.4	7935	2.7	11398	2.2	1692	2.7	17541	1.2
6	3944	0.3	6723	2.6	1465	1.4	4643	1.5	7262	1.2	1124	1.5	12193	0.7
5	2054	0.1	3491	1.4	776	0.6	2413	0.8	3581	0.6	556	0.7	6546	0.4
4	1081	0.1	2048	0.7	115	0.2	1432	0.4	2312	0.3	93	0.3	3353	0.2
3	445	0.0	1098	0.3	144	0.1	760	0.2	877	0.1	144	0.2	1687	0.1
2	275	0.0	472	0.1	32	0.0	258	0.1	357	0.1	130	0.1	826	0.0
1	137	0.0	294	0.1	52	0.0	144	0.0	281	0.0	52	0.0	532	0.0
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
N	2843567		536099		190786		652907		1190628		139961		3647474	
MEAN	29.2		18.7		21.7		22.1		23.6		21.2		27.2	
S.D.	9.1		8.1		8.7		9.5		9.7		8.9		9.8	

INDIVIDUAL MAT (1970 ED.) FORM F. INTERMEDIATE DISTRIBUTIONS FOR ANCHOR RESTANDARDIZATION TOTAL SAMPLE AND SELECTED SUBGROUPS
GRADE 5: READING COMPREHENSION

RAW SCORE	WHITE CHILDREN WTD. FREQ.	WHITE CHILDREN CUM. PERCENT	BLACK CHILDREN WTD. FREQ.	BLACK CHILDREN CUM. PERCENT	SPANISH-SURNAMED CHILDREN WTD. FREQ.	SPANISH-SURNAMED CHILDREN CUM. PERCENT	AT LEAST 25% WITH INCOME < $3000 WTD. FREQ.	AT LEAST 25% WITH INCOME < $3000 CUM. PERCENT	AT LEAST 50% WITH INCOME < $6000 WTD. FREQ.	AT LEAST 50% WITH INCOME < $6000 CUM. PERCENT	ENGLISH NOT PRINCIPAL LANGUAGE WTD. FREQ.	ENGLISH NOT PRINCIPAL LANGUAGE CUM. PERCENT	TOTAL NORMING SAMPLE WTD. FREQ.	TOTAL NORMING SAMPLE CUM. PERCENT
45	2054	100.0	0	100.0	0	100.0	157	100.0	205	100.0	0	100.0	2054	100.0
44	7702	99.9	0	100.0	136	100.0	472	100.0	1221	100.0	0	100.0	7838	99.9
43	20026	99.7	271	100.0	114	99.9	848	99.9	2732	99.9	227	100.0	20556	99.7
42	30180	99.0	372	99.9	141	99.9	2472	99.9	5887	99.7	275	99.8	30986	99.2
41	45359	98.0	778	99.9	254	99.8	3122	99.4	7621	99.2	189	99.6	47005	98.4
40	63901	96.4	809	99.7	211	99.7	4177	98.9	10061	98.6	657	99.4	65817	97.1
39	71394	94.2	643	99.6	767	99.5	5650	98.3	13614	97.8	675	98.9	73625	95.3
38	82025	91.8	1502	99.5	814	99.1	6051	97.4	14851	96.7	594	98.4	85673	93.3
37	90799	89.0	1351	99.2	1375	98.7	6689	96.5	18375	95.5	1190	97.9	95063	91.1
36	98241	85.9	1816	98.9	1777	98.0	8896	95.4	23388	94.0	1010	97.0	103538	88.5
35	98628	82.6	2925	98.6	1975	97.0	7314	94.1	21663	92.1	1038	96.2	105704	85.7
34	102305	79.2	2590	98.0	1805	96.0	9318	92.9	24812	90.4	1023	95.3	108019	82.9
33	104543	75.7	2928	97.5	1753	95.0	9365	91.5	25997	88.4	1064	94.5	110960	80.0
32	106233	72.1	3090	97.0	2172	94.1	10282	90.1	24508	86.3	698	93.7	113694	77.0
31	107039	68.5	4791	96.4	2716	92.9	10365	88.5	27980	84.3	1503	93.1	116270	74.0
30	108709	64.9	4336	95.5	2659	91.5	11175	86.9	26863	82.1	1747	91.9	117393	70.8
29	102148	61.2	5618	94.7	3718	90.1	12414	85.2	28784	79.9	2270	90.5	113261	67.7
28	111269	57.7	6393	93.6	4407	88.1	14961	83.3	32592	77.6	2375	88.7	123892	64.6
27	109305	53.9	9069	92.4	3941	85.7	15908	81.0	33740	75.0	2180	86.4	124839	61.3
26	110560	50.2	9124	90.7	5058	83.6	15844	78.5	37369	72.2	2085	84.6	126546	58.0
25	107588	46.4	9530	88.9	5480	80.9	15720	76.1	37044	69.2	2811	83.0	126124	54.6
24	107309	42.7	11819	87.1	5335	78.0	18442	73.7	37207	66.3	2541	80.7	127101	51.2
23	110162	39.1	12935	84.9	6418	75.2	18821	70.8	40220	63.3	3813	78.7	131566	47.8
22	101208	35.3	14229	82.4	7090	71.8	20017	67.9	40802	60.0	3915	75.7	124550	44.3
21	101176	31.8	17348	79.7	6885	68.0	23850	64.8	47548	56.7	4473	72.5	129546	40.9
20	95027	28.4	21533	76.4	8331	64.3	24176	61.2	45883	52.9	5270	69.0	127367	37.4
19	92423	25.2	24367	72.3	8269	59.9	26426	57.5	47653	49.2	4799	64.7	128296	34.0
18	85612	22.0	23260	67.7	9962	55.5	26443	53.4	49836	45.4	6644	60.9	121703	30.6
17	86062	19.1	26881	63.3	11377	50.2	34011	49.3	59391	41.4	7357	55.6	128801	27.3
16	79634	16.1	31198	58.2	10620	44.1	34352	44.1	55872	36.6	7387	49.7	126035	23.9
15	74190	13.4	36092	52.3	10548	38.5	34519	38.8	57371	32.1	7016	43.4	123644	20.5
14	66970	10.9	37111	45.4	9493	32.8	35587	33.5	57670	27.5	6646	37.8	117478	17.2
13	58690	8.6	38927	38.3	10379	27.8	35513	28.0	56356	22.8	7486	32.5	111535	14.3
12	51512	6.6	34294	31.0	9567	22.3	34007	22.6	51783	18.3	7216	26.5	98030	11.0
11	44017	4.8	31411	24.4	8877	17.2	31418	17.3	47904	14.1	7231	20.8	87453	8.4
10	34952	3.3	29709	18.5	7795	12.4	26385	12.5	42373	10.3	6363	15.0	73454	6.0
9	23976	2.2	21082	12.8	5521	8.3	18480	8.4	27988	6.9	4485	9.9	51603	4.1
8	17089	1.4	16169	8.8	3523	5.4	13455	5.6	21657	4.6	2646	6.3	37648	2.7
7	9550	0.8	11857	5.8	2584	3.5	9582	3.5	14544	2.9	2156	4.2	24861	1.7
6	6068	0.5	7907	3.5	1646	2.1	5831	2.0	8962	1.7	1211	2.5	16242	1.3
5	4020	0.2	4436	2.0	1325	1.2	3318	1.1	5392	1.0	770	1.5	10016	0.6
4	1930	0.1	3111	1.2	346	0.5	1774	0.6	3368	0.5	399	0.9	5709	0.3
3	1112	0.0	1794	0.6	374	0.3	1780	0.4	2371	0.3	486	0.6	3586	0.1
2	132	0.0	837	0.2	55	0.1	366	0.1	773	0.1	55	0.2	1085	0.0
1	107	0.0	376	0.1	206	0.1	89	0.0	171	0.0	167	0.1	689	0.0
0	0	0.0	0	0.0	0	0.0	62	0.0	62	0.0	0	0.0	62	0.0
N	2932531		526519		187799		650064		1242468		125143		3726951	
MEAN	26.2		16.4		18.7		19.4		21.0		18.0		24.3	
S.D.	8.7		6.9		7.5		8.5		8.9		7.8		9.2	

INDIVIDUAL MAT (1970 ED. FORM F, INTERMEDIATE) DISTRIBUTIONS FOR ANCHOR RESTANDARDIZATION TOTAL SAMPLE AND SELECTED SUBGROUPS
GRADE 6: READING COMPREHENSION

RAW SCORE	WHITE CHILDREN WTD. FREQ.	WHITE CHILDREN CUM. PERCENT	BLACK CHILDREN WTD. FREQ.	BLACK CHILDREN CUM. PERCENT	SPANISH-SURNAMED CHILDREN WTD. FREQ.	SPANISH-SURNAMED CHILDREN CUM. PERCENT	AT LEAST 25% WITH INCOME < $3000 WTD. FREQ.	AT LEAST 25% WITH INCOME < $3000 CUM. PERCENT	AT LEAST 50% WITH INCOME < $6000 WTD. FREQ.	AT LEAST 50% WITH INCOME < $6000 CUM. PERCENT	ENGLISH NOT PRINCIPAL LANGUAGE WTD. FREQ.	ENGLISH NOT PRINCIPAL LANGUAGE CUM. PERCENT	TOTAL NORMING SAMPLE WTD. FREQ.	TOTAL NORMING SAMPLE CUM. PERCENT
45	6272	100.0	0	100.0	133	100.0	177	100.0	900	100.0	138	100.0	6459	100.0
44	23302	99.8	215	100.0	370	99.9	1550	100.0	4715	99.9	227	99.9	24208	99.8
43	51081	99.0	552	100.0	438	99.7	2520	99.7	9009	99.5	378	99.7	53013	99.1
42	73482	97.2	906	99.8	1002	99.5	4445	99.3	13666	98.7	343	99.4	76651	97.7
41	102559	94.6	1209	99.7	972	98.9	6055	98.5	19011	97.5	573	99.1	106101	95.5
40	111692	91.0	1862	99.4	1415	98.4	8078	97.4	23868	95.9	888	98.6	116938	92.6
39	126000	87.1	2079	99.0	2183	97.6	8801	96.0	25280	93.8	1155	97.8	132796	89.3
38	137098	82.6	3123	98.6	2161	96.3	9211	94.4	27031	91.6	1071	96.8	144911	85.6
37	131892	77.8	2750	98.0	2138	95.1	9960	92.8	28387	89.3	1466	95.9	139520	81.6
36	130048	73.2	4469	97.4	2060	93.9	11426	91.1	32902	86.8	1688	94.6	139060	77.7
35	128090	68.6	4960	96.5	3060	92.7	13056	89.1	30940	84.0	1472	93.2	138793	73.8
34	118552	64.1	4275	95.4	3714	91.0	10663	86.4	32211	81.3	2240	91.5	129022	69.9
33	120674	59.9	5827	94.6	3926	88.9	12865	84.9	30797	78.5	2365	89.6	132856	66.3
32	118006	55.7	7409	93.4	4711	86.7	13232	82.6	33623	75.8	2587	87.5	132175	62.6
31	106871	51.6	9250	91.8	4899	84.0	16566	80.3	35313	72.9	2548	85.3	124785	58.9
30	109236	47.8	10105	89.9	4849	81.3	15453	77.4	34378	69.8	3063	83.1	126047	55.5
29	100222	44.0	8998	87.9	4416	78.5	14539	74.7	31707	66.8	2038	80.5	116178	51.7
28	99109	40.4	12522	86.0	6469	76.0	16342	72.1	36325	64.1	3400	78.7	120690	48.7
27	94778	37.0	11155	83.4	5427	72.4	17951	69.2	36406	60.9	2230	75.8	113307	45.3
26	93659	33.6	12149	81.1	5510	69.3	18081	66.1	37105	57.8	3457	73.9	114321	42.2
25	86146	30.3	13830	78.6	5327	66.2	17263	62.9	36000	54.5	2693	70.9	107768	39.0
24	85805	27.3	15480	75.8	6359	63.2	17768	59.8	37680	51.4	2962	68.6	109881	36.0
23	80108	24.3	16375	72.6	6751	59.6	19557	56.7	39031	48.1	4179	66.0	106056	32.9
22	72618	21.5	16605	69.2	6249	55.8	19546	53.3	37246	44.7	3913	62.4	99554	29.9
21	66319	18.9	20028	65.8	7764	52.2	21106	49.8	37998	41.5	5223	59.1	96645	27.2
20	60295	16.6	21979	61.7	6867	47.9	20964	46.1	38708	38.2	4589	54.6	90632	24.5
19	55652	14.5	20894	57.1	7772	44.0	19456	42.4	36237	34.8	5206	50.6	85842	21.9
18	50554	12.5	23036	52.8	7595	39.6	22991	39.0	39230	31.7	5059	46.2	83551	19.5
17	48812	10.8	25120	48.1	7856	35.3	24106	35.0	40173	28.3	5704	41.8	84419	17.2
16	47799	9.0	28677	42.9	7552	30.9	24599	30.7	44135	24.8	6314	36.9	86093	14.9
15	40225	7.4	27370	37.0	7609	26.6	23819	26.4	37967	21.0	5530	31.5	76562	12.5
14	35337	5.9	25427	31.4	7457	22.3	23653	22.2	38750	17.7	5716	26.7	70080	10.3
13	32612	4.7	25679	25.2	7835	18.1	22856	18.1	35329	14.3	6002	21.8	67364	8.4
12	27208	3.6	23226	20.9	4802	13.7	19772	14.0	31544	11.2	4179	16.6	57024	6.5
11	23937	2.6	21231	16.1	5238	10.9	16498	10.6	26671	8.5	4102	13.0	51388	4.9
10	16628	1.8	18550	11.7	3691	8.0	13996	7.6	23537	6.2	3075	9.5	39937	3.5
9	12460	1.2	13191	7.9	3296	5.9	10272	5.2	17275	4.1	2362	6.9	29795	2.4
8	7502	0.7	9834	5.2	2360	4.0	7294	3.4	11429	2.6	2523	4.8	20365	1.5
7	5754	0.5	5811	3.1	2560	2.7	4824	2.1	7314	1.6	1579	2.7	14225	1.0
6	3506	0.3	4231	1.9	1265	1.3	3615	1.2	5503	1.0	661	1.3	9351	0.6
5	1504	0.2	2369	1.1	427	0.6	1467	0.6	2401	0.5	310	0.7	4156	0.3
4	1470	0.1	1775	0.7	86	0.3	1097	0.4	1625	0.3	223	0.5	3395	0.2
3	848	0.1	719	0.3	254	0.3	624	0.2	1313	0.2	150	0.3	1821	0.1
2	575	0.0	445	0.1	56	0.1	127	0.1	571	0.1	141	0.2	1075	0.0
1	110	0.0	163	0.0	89	0.1	108	0.0	213	0.0	39	0.0	362	0.0
0	0	0.0	57	0.0	62	0.0	57	0.0	57	0.0	0	0.0	119	0.0
N	2846027		485637		177021		568406		1151508		116278		3586310	
MEAN	29.8		19.1		21.9		22.6		24.4		20.8		27.9	
S.D.	8.6		7.8		8.6		9.1		9.5		8.6		9.4	

INDIVIDUAL MAT (1970 ED.) FORM F, ELEMENTARY 1 DISTRIBUTIONS FOR ANCHOR RESTANDARDIZATION TOTAL SAMPLE AND SELECTED SUBGROUPS
GRADE 4: TOTAL READING

RAW SCORE	WHITE CHILDREN WTD. FREQ.	WHITE CHILDREN CUM. PERCENT	BLACK CHILDREN WTD. FREQ.	BLACK CHILDREN CUM. PERCENT	SPANISH-SURNAMED CHILDREN WTD. FREQ.	SPANISH-SURNAMED CHILDREN CUM. PERCENT	AT LEAST 25% WITH INCOME < $3000 WTD. FREQ.	AT LEAST 25% WITH INCOME < $3000 CUM. PERCENT	AT LEAST 50% WITH INCOME < $6000 WTD. FREQ.	AT LEAST 50% WITH INCOME < $6000 CUM. PERCENT	ENGLISH NOT PRINCIPAL LANGUAGE WTD. FREQ.	ENGLISH NOT PRINCIPAL LANGUAGE CUM. PERCENT	TOTAL NORMING SAMPLE WTD. FREQ.	TOTAL NORMING SAMPLE CUM. PERCENT
95	721	100.0	0	100.0	0	100.0	53	100.0	107	100.0	0	100.0	721	100.0
94	5433	100.0	0	100.0	0	100.0	360	100.0	706	100.0	0	100.0	5484	100.0
93	13755	99.8	57	100.0	0	100.0	646	99.9	2011	99.9	35	100.0	14029	99.8
92	23320	99.3	53	100.0	51	100.0	1402	99.8	3474	99.8	52	100.0	23457	99.4
91	34723	98.5	158	100.0	148	100.0	1866	99.6	5803	99.5	381	99.9	35302	98.8
90	45583	97.3	493	100.0	101	99.9	2924	99.3	7499	99.0	397	99.7	46663	97.8
89	55541	95.7	603	99.9	516	99.8	4240	98.9	11037	98.4	190	99.4	57240	96.6
88	62122	93.7	1201	99.7	703	99.6	4251	98.2	11145	97.4	489	99.2	64639	95.0
87	66233	91.5	1151	99.5	862	99.2	5254	97.6	12506	96.5	797	98.9	68878	93.2
86	68711	89.2	1232	99.3	1155	98.8	6740	96.8	14494	95.4	910	98.3	72312	91.3
85	70732	86.4	2063	99.1	1400	98.1	5468	95.8	15012	94.2	731	97.7	82958	89.1
84	79681	83.7	2151	98.7	824	97.4	9003	94.9	19028	93.0	1279	97.2	85091	86.8
83	80141	80.9	1770	98.3	1560	97.0	5701	93.5	14256	91.4	939	96.2	84103	84.5
82	76440	78.0	2818	98.0	1351	96.2	8145	92.7	17098	90.2	842	95.6	81184	82.2
81	74337	75.4	2037	97.4	1102	95.5	6016	91.4	16258	88.7	792	95.0	78936	79.9
80	72940	72.7	2702	97.1	1577	94.9	7883	90.5	16828	87.4	1249	94.4	78616	77.8
79	72747	70.2	2306	96.6	1950	94.1	7581	87.3	17944	86.0	1717	93.5	78216	75.6
78	66186	67.6	2869	96.1	2013	93.0	7636	84.1	17760	84.4	1193	92.3	73056	73.5
77	68710	65.3	2812	95.6	2529	92.0	7427	87.0	17471	83.0	1637	91.4	74917	71.5
76	67358	62.9	3527	95.1	1814	90.6	8757	85.8	19613	81.5	1466	90.3	74861	69.4
75	65496	60.5	3226	94.4	2152	89.7	7357	84.5	17534	79.8	1900	89.2	72209	67.4
74	63392	58.2	4069	93.8	1405	88.6	8461	83.3	15864	78.4	849	87.9	70529	65.4
73	61375	56.0	4423	93.0	2705	87.8	8798	82.1	17784	77.0	1519	87.2	69532	63.4
72	59973	53.8	4116	92.2	1987	86.4	8353	80.7	18117	75.5	1637	86.2	67656	61.5
71	54867	51.7	4231	91.4	2425	85.4	9121	79.4	17754	74.0	1318	85.0	63363	59.7
70	53245	49.8	5482	90.7	2377	84.1	9146	78.0	16907	72.5	1277	84.1	61908	57.9
69	51744	47.9	4744	89.6	1972	82.9	7307	76.6	15757	71.1	1235	83.1	59515	56.2
68	50393	46.1	5749	88.8	3123	81.8	6638	75.5	17166	69.8	1972	82.3	60692	54.5
67	48857	44.3	4187	87.7	2981	80.2	7628	74.5	18763	68.3	1603	80.8	57040	52.9
66	46009	42.6	5839	86.9	2279	78.6	7036	73.3	15817	66.8	1703	79.7	56301	51.4
65	46591	41.0	4930	85.8	2916	77.4	8191	72.2	16866	65.4	1817	78.5	56241	49.8
64	45962	39.3	6629	84.9	3383	75.9	9128	71.0	17039	64.0	1705	77.2	57883	48.3
63	45995	37.7	5710	83.6	2850	74.1	8830	69.6	16876	62.6	1798	76.0	55883	46.7
62	40642	36.1	5120	82.6	3182	72.6	8509	68.2	16476	61.2	1926	74.7	50226	45.2
61	41794	34.7	5934	81.6	2558	71.0	7307	66.9	16569	59.8	1666	73.3	51308	43.8
60	41651	33.2	6178	80.5	2893	69.6	7791	65.8	16639	58.4	1608	72.1	51402	42.4
59	37321	31.7	6836	79.4	2589	68.1	8510	64.6	15594	57.0	2142	71.0	47516	41.0
58	35417	30.4	7209	78.1	2368	66.8	8963	63.3	17097	55.7	1224	69.4	46078	39.7
57	35914	29.2	7109	76.7	2838	65.5	8944	62.0	15835	54.3	2540	68.6	47047	38.4
56	39473	27.9	7866	75.4	2490	64.2	11395	60.6	18744	52.9	2078	66.7	51239	37.1
55	35237	26.5	6723	74.0	2481	62.7	7848	58.8	15872	51.3	1604	65.2	45242	35.7
54	32764	25.3	7534	72.7	2337	61.4	9114	57.6	15798	50.0	1885	64.0	43959	34.5
53	36545	24.1	7542	71.3	3587	60.2	8368	56.2	17304	48.7	1811	62.7	48594	33.3
52	30229	22.9	8767	69.9	3015	58.3	9313	55.0	17298	47.2	1953	61.4	43166	31.9
51	32404	21.8	7320	68.3	3193	56.7	8752	53.5	17011	45.8	1593	60.0	44015	30.8

INDIVIDUAL MAT (1970 ED. FORM F, ELEMENTARY) DISTRIBUTIONS FOR ANCHOR RESTANDARDIZATION TOTAL SAMPLE AND SELECTED SUBGROUPS
GRADE 4: TOTAL READING

RAW SCORE	WHITE CHILDREN WTD. FREQ.	WHITE CHILDREN CUM. PERCENT	BLACK CHILDREN WTD. FREQ.	BLACK CHILDREN CUM. PERCENT	SPANISH-SURNAMED CHILDREN WTD. FREQ.	SPANISH-SURNAMED CHILDREN CUM. PERCENT	AT LEAST 25% WITH INCOME < $3000 WTD. FREQ.	AT LEAST 25% WITH INCOME < $3000 CUM. PERCENT	AT LEAST 50% WITH INCOME < $6000 WTD. FREQ.	AT LEAST 50% WITH INCOME < $6000 CUM. PERCENT	ENGLISH NOT PRINCIPAL LANGUAGE WTD. FREQ.	ENGLISH NOT PRINCIPAL LANGUAGE CUM. PERCENT	TOTAL NORMING SAMPLE WTD. FREQ.	TOTAL NORMING SAMPLE CUM. PERCENT
50	30347	20.7	6644	66.9	2946	55.1	8858	52.2	16171	44.4	2543	59.9	40696	29.6
49	30396	19.6	8182	65.7	2588	53.5	8494	50.8	17046	43.0	1987	57.1	42250	28.4
48	30273	18.5	8887	64.1	4347	52.2	10398	49.5	18662	41.6	3314	55.6	45037	27.3
47	27736	17.5	9871	62.5	3284	49.9	10125	47.9	16876	40.0	2145	53.3	42175	26.0
46	28566	16.5	7476	60.6	2088	48.2	8822	46.4	15454	38.6	1359	51.7	38613	24.9
45	22669	15.5	8141	59.2	3218	47.1	7592	45.0	14715	37.3	1754	50.8	35217	23.9
44	26079	14.7	9812	57.7	4160	45.4	10325	43.9	17773	36.0	2783	49.5	40470	22.9
43	22242	13.8	8246	55.9	3713	43.2	9159	42.3	14785	34.6	2924	47.5	34989	21.8
42	22235	13.0	10381	54.3	3650	41.3	10635	40.9	17910	33.3	2497	45.4	37170	20.8
41	22555	12.2	8015	52.4	3024	39.3	9935	39.3	16544	31.8	1935	43.7	34812	19.8
40	22529	11.4	9521	50.9	3134	37.8	9878	37.7	16238	30.4	2392	42.3	35694	18.8
39	17699	10.6	10743	49.1	3022	36.1	10037	36.2	14501	29.1	2430	40.6	32802	17.8
38	19537	10.0	11422	47.1	3334	34.5	10202	34.7	15498	27.8	2098	38.8	35053	16.9
37	17765	9.3	8516	45.0	2464	32.8	7636	33.1	12507	26.5	2002	37.3	29333	16.0
36	18021	8.7	11470	43.4	3681	31.5	10716	32.0	15888	25.5	2887	35.9	34103	15.2
35	17891	8.0	9396	41.3	3431	29.6	10405	30.3	16358	24.1	3130	33.8	31905	14.2
34	17752	7.4	9916	39.5	3493	27.8	10313	28.7	15103	22.8	2770	31.6	31937	13.4
33	20296	6.8	12572	37.7	3947	25.9	11808	27.1	18068	21.5	2497	29.6	36958	12.5
32	17660	6.1	12917	35.3	2702	23.9	11263	25.3	17761	20.0	1886	27.8	34008	11.5
31	15268	5.5	12311	32.9	3319	22.4	12188	23.6	16822	18.5	2781	26.5	31557	10.5
30	16202	4.9	14668	30.6	3833	20.7	12206	21.7	19104	17.1	2957	24.5	35519	9.7
29	14873	4.3	11860	27.9	3339	18.7	11143	19.9	17064	15.5	3393	22.4	31457	8.7
28	14108	3.8	13288	25.7	3304	16.9	11723	18.2	17668	14.0	2645	20.0	31362	7.8
27	12567	3.3	14202	23.2	2958	15.2	12702	16.4	18195	12.6	2594	18.1	30729	7.0
26	11505	2.9	12183	20.5	3356	13.7	12030	14.4	16383	11.0	2517	16.2	28354	6.1
25	10362	2.5	12006	18.3	2952	11.9	9300	12.6	13451	9.7	2283	14.4	25924	5.4
24	11946	2.1	11916	16.0	3068	10.4	10155	11.2	14381	8.5	2159	12.8	27449	4.6
23	9892	1.7	12405	13.8	3012	8.7	11281	9.6	16369	7.3	2920	11.2	25908	3.9
22	6899	1.3	10563	11.5	2744	7.2	8831	7.9	11558	5.9	2183	9.2	20556	3.2
21	5569	1.1	9205	9.5	1941	5.7	7795	6.6	11114	5.0	2637	7.6	17597	2.6
20	5246	0.9	7993	7.8	1000	4.7	6560	5.4	9018	4.0	1158	5.7	14286	2.1
19	4485	0.7	7623	6.3	1197	4.2	6684	4.4	8612	3.3	1206	4.9	13366	1.7
18	4200	0.6	4758	4.9	1534	3.6	4812	3.3	6727	2.6	1114	4.0	10596	1.4
17	2784	0.4	4455	4.0	1042	2.8	3094	2.6	4155	2.0	594	3.2	8405	1.1
16	2255	0.3	4253	3.2	1002	2.2	3490	2.1	4845	1.6	790	2.8	7758	0.9
15	1412	0.2	2850	2.4	818	1.7	2545	1.6	3297	1.2	949	2.2	5080	0.6
14	1619	0.2	2596	1.8	652	1.3	1679	1.2	3100	1.0	420	1.6	4928	0.5
13	656	0.1	1311	1.3	729	0.9	1177	0.9	1556	0.7	642	1.3	2863	0.4
12	963	0.1	1909	1.1	303	0.5	1793	0.8	2437	0.6	333	0.8	3175	0.3
11	689	0.1	1003	0.7	221	0.4	507	0.5	905	0.4	167	0.6	1997	0.2
10	444	0.1	1211	0.6	111	0.3	1014	0.4	1408	0.3	111	0.4	1817	0.1
9	460	0.0	901	0.3	198	0.2	1121	0.3	1258	0.2	198	0.4	1639	0.1
8	188	0.0	163	0.2	0	0.1	167	0.1	194	0.1	0	0.2	412	0.1
7	141	0.0	395	0.1	58	0.1	214	0.1	319	0.0	58	0.2	594	0.0
6	107	0.0	245	0.1	127	0.1	119	0.0	209	0.0	127	0.2	479	0.0
5	85	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.1	85	0.0
4	130	0.0	92	0.0	0	0.0	51	0.0	0	0.0	130	0.1	269	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	49	0.0
2*	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
N	2843567		536099		190786		652907		1190628		139961		3647474	
MEAN	66.4		43.0		48.7		50.3		54.1		47.3		61.8	
S.D.	13.2		18.1		19.0		20.8		20.9		19.6		20.3	

INDIVIDUAL MAT (1970 ED. FORM F, INTERMEDIATE) DISTRIBUTIONS FOR ANCHOR RESTANDARDIZATION TOTAL SAMPLE AND SELECTED SUBGROUPS
GRADE 5: TOTAL READING

RAW SCORE	WHITE CHILDREN WTD. FREQ.	WHITE CHILDREN CUM. PERCENT	BLACK CHILDREN WTD. FREQ.	BLACK CHILDREN CUM. PERCENT	SPANISH-SURNAMED CHILDREN WTD. FREQ.	SPANISH-SURNAMED CHILDREN CUM. PERCENT	AT LEAST 25% WITH INCOME < $3000 WTD. FREQ.	AT LEAST 25% WITH INCOME < $3000 CUM. PERCENT	AT LEAST 50% WITH INCOME < $6000 WTD. FREQ.	AT LEAST 50% WITH INCOME < $6000 CUM. PERCENT	ENGLISH NOT PRINCIPAL LANGUAGE WTD. FREQ.	ENGLISH NOT PRINCIPAL LANGUAGE CUM. PERCENT	TOTAL NORMING SAMPLE WTD. FREQ.	TOTAL NORMING SAMPLE CUM. PERCENT
95	410	100.0	0	100.0	0	100.0	55	100.0	55	100.0	0	100.0	410	100.0
94	1379	100.0	0	100.0	0	100.0	218	100.0	417	100.0	0	100.0	1379	100.0
93	2278	99.9	0	100.0	0	100.0	0	100.0	55	100.0	0	100.0	2278	100.0
92	5328	99.9	52	100.0	54	100.0	158	100.0	829	100.0	0	100.0	5434	99.9
91	8558	99.7	82	100.0	48	100.0	420	99.9	1220	99.9	53	100.0	8851	99.7
90	12064	99.4	172	100.0	59	99.9	400	99.8	1505	99.8	108	100.0	12347	99.5
89	15282	99.0	117	99.9	105	99.9	1137	99.8	2388	99.7	82	99.9	15739	99.2
88	18053	98.5	52	99.9	164	99.9	753	99.6	2794	99.5	184	99.8	18359	98.8
87	22934	97.8	696	99.9	52	99.8	1336	99.5	3550	99.3	174	99.7	24131	98.3
86	24362	97.1	248	99.8	223	99.7	2084	99.3	4453	99.0	199	99.5	25666	97.6
85	28973	96.2	445	99.7	100	99.6	2219	99.0	4314	98.6	34	99.4	29859	96.9
84	28866	95.2	227	99.6	140	99.6	2458	98.6	4637	98.3	173	99.3	29457	96.1
83	32843	94.3	322	99.6	102	99.5	2236	98.3	5034	97.9	346	99.2	33952	95.3
82	40064	93.1	412	99.5	274	99.4	2304	97.9	7305	97.5	194	98.9	41255	94.4
81	39681	91.8	410	99.5	536	99.3	2991	97.6	6830	96.9	438	98.8	41149	93.3
80	42150	90.4	821	99.4	647	99.0	3177	97.1	9230	96.3	197	98.4	43960	92.2
79	39643	89.0	837	99.2	769	98.7	2584	96.6	7992	95.6	652	98.3	41768	91.0
78	3908	87.6	1074	99.1	703	98.3	3285	96.2	8455	95.0	483	97.7	45995	89.9
77	46416	86.2	756	98.9	697	97.9	3467	95.7	9459	94.3	641	97.4	49217	88.7
76	46116	84.6	677	98.7	1107	97.5	3674	95.2	9514	93.5	370	96.8	48652	87.4
75	48191	83.0	769	98.6	437	96.9	3938	94.6	9503	92.8	421	96.5	50323	86.1
74	47580	81.4	1253	98.4	649	96.7	4455	94.0	11128	92.0	557	96.2	50136	84.7
73	56134	79.7	1401	98.2	644	96.3	4067	93.3	13316	91.1	485	95.8	58597	83.4
72	53649	77.8	1233	97.9	895	96.0	4768	92.7	12679	90.0	443	95.4	56440	81.8
71	52111	76.0	1870	97.7	898	95.5	3998	92.0	11782	89.0	361	95.0	55777	80.3
70	52316	74.2	1309	97.4	874	95.0	4182	91.4	13108	88.1	507	94.7	55210	78.8
69	54100	72.4	2198	97.1	1226	94.6	4130	90.7	11711	87.0	263	94.3	58176	77.3
68	52192	70.6	1789	96.7	1330	93.9	5057	90.1	11289	86.1	707	94.1	56670	75.7
67	54660	68.8	2101	96.3	1134	93.2	4682	89.3	13500	85.1	672	93.6	58228	74.2
66	57549	66.9	1807	96.0	1640	92.6	6308	88.6	16124	84.1	647	93.0	62049	72.6
65	51769	65.0	1987	95.6	1474	91.7	5747	87.6	12838	82.8	703	92.5	56368	71.0
64	56706	63.2	2825	95.2	1590	91.0	7269	86.7	15352	81.7	1051	91.9	61571	69.5
63	54427	61.3	2914	94.7	1614	90.1	5718	85.6	13510	80.5	810	91.1	59774	67.8
62	52950	59.4	2285	94.1	1461	89.3	5382	84.7	13337	79.4	855	90.4	57678	66.2
61	58772	57.6	2063	93.7	2231	88.5	6533	83.9	16234	78.3	1085	89.8	64448	64.7
60	56141	55.6	2709	93.3	1930	87.3	6268	82.9	15432	77.0	1041	88.9	61855	62.9
59	55493	53.7	4899	92.8	1709	86.3	6659	81.9	15232	75.8	1033	88.1	63072	61.3
58	57989	51.8	3888	91.9	1689	85.3	8358	80.9	19306	74.6	937	87.2	64822	59.6
57	53861	49.8	3447	91.1	2105	84.4	7281	79.6	16934	73.0	1328	86.5	60837	57.8
56	55840	48.0	3626	90.5	2704	83.3	7477	78.5	17117	71.6	1169	85.4	63053	56.2
55	52821	46.1	4324	89.8	1817	81.9	7544	77.4	16525	70.3	1211	84.5	60713	54.5
54	54224	44.3	4754	89.0	2058	80.9	7664	76.2	17712	68.9	734	83.5	61635	52.9
53	51256	42.4	5749	88.1	2193	79.8	8353	75.0	18700	67.5	1000	82.9	60088	51.2
52	54877	40.7	5782	87.0	2190	78.7	8687	73.7	17278	66.0	1305	82.1	64194	49.6
51	57414	38.8	4573	85.9	3015	77.5	8784	72.4	19743	64.6	1340	81.1	65941	47.9

INDIVIDUAL MAT (1970 ED. FORM F, INTERMEDIATE) DISTRIBUTIONS FOR ANCHOR RESTANDARDIZATION TOTAL SAMPLE AND SELECTED SUBGROUPS
GRADE 5: TOTAL READING

RAW SCORE	WHITE CHILDREN WTD. FREQ.	WHITE CHILDREN CUM. PERCENT	BLACK CHILDREN WTD. FREQ.	BLACK CHILDREN CUM. PERCENT	SPANISH-SURNAME CHILDREN WTD. FREQ.	SPANISH-SURNAME CHILDREN CUM. PERCENT	AT LEAST 25% WITH INCOME < $3000 WTD. FREQ.	AT LEAST 25% WITH INCOME < $3000 CUM. PERCENT	AT LEAST 50% WITH INCOME < $6000 WTD. FREQ.	AT LEAST 50% WITH INCOME < $6000 CUM. PERCENT	ENGLISH NOT PRINCIPAL LANGUAGE WTD. FREQ.	ENGLISH NOT PRINCIPAL LANGUAGE CUM. PERCENT	TOTAL NORMING SAMPLE WTD. FREQ.	TOTAL NORMING SAMPLE CUM. PERCENT
50	51719	36.9	4868	85.0	3207	75.9	8737	71.0	18242	63.0	1161	80.0	61160	46.1
49	51436	35.1	5041	84.1	3609	74.2	9106	69.7	19181	61.6	2502	79.1	61747	44.5
48	50563	33.3	6196	83.1	2653	72.3	9816	68.3	21148	60.0	1631	77.1	60549	42.8
47	50693	31.6	6008	81.9	2887	70.8	9699	66.8	20885	58.3	1660	75.8	60475	41.2
46	47559	29.9	8221	80.8	3714	69.3	10230	65.3	21264	56.6	1512	74.5	59864	39.6
45	50321	28.3	8557	79.2	3056	67.3	10495	63.7	21508	54.9	1555	73.3	63759	38.0
44	47367	26.5	9278	77.6	3943	65.7	12249	62.1	22524	53.2	2810	72.0	61942	36.2
43	46190	24.9	9251	75.9	3717	63.6	11341	60.2	22873	51.4	2283	69.9	60281	34.5
42	47773	23.4	9476	74.1	3207	61.6	11594	58.5	22463	49.5	2047	68.0	61735	33.0
41	45666	21.7	11385	72.3	3668	59.9	11178	56.7	25046	47.7	2293	66.3	61675	31.3
40	41370	20.2	9465	70.1	3536	58.0	11322	54.7	21996	45.7	2568	64.5	55389	29.6
39	36231	18.8	10748	68.3	3925	56.1	12032	52.9	20746	43.9	2882	62.4	53073	28.2
38	40536	17.5	10528	66.3	4975	54.0	12915	51.1	25695	42.3	3005	60.1	58226	26.7
37	39855	16.1	12528	64.3	3939	51.3	13947	49.1	24740	40.2	2491	57.7	58792	25.2
36	38641	14.7	13920	61.9	5745	49.2	15370	46.9	26487	38.2	3102	55.7	59349	23.6
35	35872	13.4	13148	59.3	5825	46.2	15543	44.6	25297	36.1	3938	53.3	56879	22.0
34	35194	12.2	16039	56.8	5191	43.1	16283	42.2	27796	34.0	2961	50.1	56074	20.5
33	31659	11.0	13977	53.7	5574	40.3	16372	39.7	26424	31.8	3896	47.7	53549	18.9
32	30450	9.9	16061	51.1	4270	37.4	16602	37.1	26285	29.7	2931	44.6	51832	17.5
31	30067	8.9	17365	48.0	6295	35.1	18432	34.6	27132	27.6	4603	42.3	55052	16.1
30	28435	7.9	18332	44.7	6049	31.7	15864	31.8	27591	25.2	4961	38.6	54305	14.6
29	25479	6.9	19159	41.2	5711	28.5	18091	29.3	28195	23.0	3926	34.6	51833	13.1
28	25478	6.0	20114	37.6	5026	25.5	19626	26.5	29478	20.7	5002	31.5	53263	11.8
27	23958	5.2	17630	33.8	5270	22.8	16547	23.5	26379	18.4	3917	27.5	47899	10.3
26	20380	4.3	19358	30.4	4387	20.0	17938	21.0	26218	16.2	3689	24.4	46184	9.0
25	18268	3.6	19786	26.8	4480	17.6	17252	18.2	26652	14.1	4023	21.4	45411	7.8
24	14891	3.0	17934	23.0	4803	15.3	15727	15.6	23869	12.0	3233	18.2	38938	6.6
23	14464	2.5	15511	19.6	4331	12.7	13863	13.1	19892	10.1	3452	15.6	35311	5.5
22	12592	2.0	15607	16.6	3569	10.4	13155	11.0	19671	8.5	3172	12.9	32559	4.6
21	10148	1.6	12973	13.7	3261	8.5	11040	9.0	16503	6.9	2812	10.3	26503	3.7
20	7866	1.2	12394	11.2	2857	6.8	10302	7.3	15058	5.5	2338	8.1	23677	3.0
19	6235	0.9	9016	8.9	2028	5.2	8300	5.7	11613	4.3	2155	6.2	18360	2.4
18	5499	0.7	6772	7.2	1921	4.2	6125	4.4	8874	3.4	1295	4.5	14623	1.9
17	4017	0.5	6490	5.9	1643	3.1	5273	3.5	7477	2.7	1363	3.5	12443	1.5
16	3471	0.4	5514	4.6	826	2.3	3948	2.7	5868	2.1	497	2.4	9976	1.1
15	2787	0.3	4370	3.6	1007	1.8	3304	2.1	5108	1.6	689	2.0	8351	0.9
14	1889	0.2	3651	2.8	588	1.3	2693	1.6	3996	1.2	428	1.4	6815	0.5
13	731	0.1	3254	2.1	412	1.0	2632	1.1	3038	0.9	240	1.1	4638	0.5
12	1010	0.1	1687	1.4	331	0.8	1226	0.7	1992	0.6	280	0.9	3185	0.3
11	662	0.1	1769	1.1	295	0.6	963	0.5	1762	0.5	185	0.7	2825	0.3
10	656	0.1	1059	0.8	134	0.4	647	0.4	1138	0.3	134	0.5	1849	0.2
9	404	0.0	1191	0.6	187	0.3	905	0.3	1235	0.2	58	0.4	1952	0.1
8	0	0.0	592	0.4	89	0.2	279	0.2	494	0.1	89	0.4	681	0.1
7	128	0.0	508	0.2	0	0.2	329	0.1	535	0.1	0	0.3	636	0.1
6	281	0.0	347	0.2	61	0.2	218	0.1	219	0.1	61	0.3	689	0.0
5	0	0.0	175	0.1	146	0.2	93	0.0	267	0.0	146	0.3	321	0.0
4	0	0.0	83	0.1	167	0.1	0	0.0	83	0.0	167	0.1	250	0.0
3	0	0.0	106	0.0	0	0.0	106	0.0	106	0.0	0	0.0	106	0.0
2	0	0.0	82	0.0	0	0.0	0	0.0	0	0.0	0	0.0	82	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
N	2932531		526519		187799		650064		1242468		125143		3726951	
MEAN	56.8		35.2		40.1		41.8		45.3		38.1		52.7	
S.D.	17.5		14.3		15.7		17.6		18.3		15.9		18.9	

INDIVIDUAL MAT (1970 ED. FORM F, INTERMEDIATE) DISTRIBUTIONS FOR ANCHOR RESTANDARDIZATION TOTAL SAMPLE AND SELECTED SUBGROUPS
GRADE 6: TOTAL READING

RAW SCORE	WHITE CHILDREN WTD. FREQ.	WHITE CHILDREN CUM. PERCENT	BLACK CHILDREN WTD. FREQ.	BLACK CHILDREN CUM. PERCENT	SPANISH-SURNAMED CHILDREN WTD. FREQ.	SPANISH-SURNAMED CHILDREN CUM. PERCENT	AT LEAST 25% WITH INCOME < $3000 WTD. FREQ.	AT LEAST 25% WITH INCOME < $3000 CUM. PERCENT	AT LEAST 50% WITH INCOME < $6000 WTD. FREQ.	AT LEAST 50% WITH INCOME < $6000 CUM. PERCENT	ENGLISH NOT PRINCIPAL LANGUAGE WTD. FREQ.	ENGLISH NOT PRINCIPAL LANGUAGE CUM. PERCENT	TOTAL NORMING SAMPLE WTD. FREQ.	TOTAL NORMING SAMPLE CUM. PERCENT
95	1092	100.0	0	100.0	82	100.0	123	100.0	229	100.0	0	100.0	1228	100.0
94	3983	100.0	0	100.0	51	100.0	0	100.0	496	100.0	0	100.0	4096	100.0
93	10370	99.8	38	100.0	163	99.9	690	100.0	1431	99.9	75	100.0	10443	99.9
92	20415	99.5	227	100.0	0	99.8	1112	99.9	3125	99.8	236	99.9	21038	99.5
91	27109	98.8	313	99.9	322	99.8	1183	99.7	5597	99.5	371	99.7	28268	99.0
90	35126	97.8	98	99.9	367	99.7	1932	99.5	5545	99.1	244	99.4	36318	98.2
89	43895	96.6	438	99.9	242	99.4	2172	99.1	7886	98.6	57	99.2	44736	97.2
88	47426	95.0	351	99.8	646	99.3	3134	98.7	9036	97.9	266	99.2	49360	95.9
87	49809	93.4	795	99.7	467	98.9	2737	98.2	8225	97.1	290	98.9	52198	94.5
86	52968	91.6	511	99.5	722	98.7	2639	97.7	8687	96.4	278	98.7	54689	93.1
85	53426	89.8	1292	99.4	469	98.3	3443	97.2	9804	95.6	244	98.4	61759	91.6
84	60500	87.7	1095	99.2	875	98.0	4257	96.6	13060	94.9	333	98.2	63922	89.8
83	61197	85.5	1147	98.9	912	97.5	3713	95.9	11546	93.7	399	97.9	63972	88.1
82	62941	83.4	1260	98.7	993	97.0	5613	95.2	13955	92.6	675	97.6	67249	86.3
81	69397	81.2	813	98.4	813	96.4	4095	94.2	15389	91.4	771	97.0	72941	84.4
80	66966	78.7	1413	98.3	893	96.0	5165	93.5	14079	90.1	734	96.4	70198	82.4
79	65796	76.4	1013	98.0	770	95.5	4695	92.6	12246	88.9	499	95.7	68559	80.4
78	64642	74.1	1610	97.8	1311	95.0	4472	91.8	13532	87.8	658	95.3	68846	78.5
77	64280	71.8	1711	97.4	721	94.3	4581	91.0	14895	86.6	864	94.7	67725	76.6
76	68017	69.6	2118	97.1	1168	93.9	3763	90.2	13813	85.3	801	94.0	72524	74.7
75	65211	67.2	2455	96.7	1533	93.2	5949	89.5	16250	84.1	848	93.3	70346	72.7
74	65253	64.9	2528	96.1	1612	92.4	5675	88.5	16321	82.7	975	92.6	70813	70.7
73	62473	62.6	2685	95.6	1598	91.5	6691	87.5	15864	81.3	1222	91.7	67914	68.7
72	62562	60.4	2877	95.1	2055	90.5	7033	86.3	14828	79.9	984	90.7	68846	66.9
71	64721	58.2	3224	94.5	2252	89.4	7300	85.1	19267	78.7	1029	89.8	71350	64.9
70	60208	55.9	3889	93.8	1900	88.1	6885	83.8	16914	77.0	1177	88.9	67183	62.9
69	56766	53.8	3378	93.0	2289	87.0	7488	82.6	16971	75.5	723	87.9	64432	61.1
68	59812	51.8	3068	92.3	2462	85.7	7480	81.3	16822	74.0	1507	87.3	66352	59.3
67	60171	49.7	3775	91.7	2931	84.4	7531	79.9	18418	72.6	1491	86.0	67655	57.4
66	55392	47.6	3728	90.9	2161	82.7	6893	78.6	16050	71.0	967	84.7	63079	55.5
65	54048	45.6	4611	90.1	2293	81.5	7987	77.4	16444	69.6	1128	83.9	61740	53.6
64	55074	43.7	5104	89.2	2244	80.2	8942	76.0	18355	68.2	1145	82.9	64564	52.1
63	53453	41.8	4555	88.1	2234	78.9	7523	74.4	17090	66.6	1282	81.9	61638	50.3
62	49437	39.9	5103	87.2	2449	77.7	7549	73.1	16723	65.1	1468	80.8	58405	48.5
61	54730	38.2	5935	86.2	2516	76.3	7307	71.8	16916	63.6	1177	79.6	63816	46.9
60	50526	36.2	5430	84.9	2312	74.9	8700	70.5	17473	62.2	1068	78.6	59457	45.1
59	46038	34.5	5371	83.8	2893	73.5	7596	69.0	17198	60.6	1242	77.7	55761	43.5
58	45467	32.9	5603	82.7	2903	71.9	7349	67.6	17814	59.1	2199	76.6	55753	41.9
57	48292	31.3	4440	81.6	2773	70.3	8595	66.3	19004	57.6	1160	74.7	56723	40.4
56	46431	29.6	7018	80.6	3067	68.7	9218	64.8	18337	55.9	1151	73.7	57898	38.8
55	42439	27.9	6273	79.2	2498	67.0	8367	63.2	17603	54.4	1402	72.7	52477	37.2
54	45951	26.4	6256	77.9	2964	65.6	9853	61.7	21688	52.8	2322	71.5	57385	35.7
53	38125	24.8	6846	76.6	3064	63.9	9412	60.0	17773	50.9	1448	69.5	48912	34.1
52	39155	23.5	8242	75.2	2829	62.2	7765	58.3	17796	49.4	1439	68.3	52537	32.7
51	36352	22.1	7005	73.5	3062	60.6	8630	57.0	17395	47.9	1255	67.0	47879	31.3

INDIVIDUAL MAT (1970 ED. FORM F, INTERMEDIATE) DISTRIBUTIONS FOR ANCHOR RESTANDARDIZATION TOTAL SAMPLE AND SELECTED SUBGROUPS
GRADE 6: TOTAL READING

RAW SCORE	WHITE CHILDREN WTD. FREQ.	WHITE CHILDREN CUM. PERCENT	BLACK CHILDREN WTD. FREQ.	BLACK CHILDREN CUM. PERCENT	SPANISH-SURNAMED CHILDREN WTD. FREQ.	SPANISH-SURNAMED CHILDREN CUM. PERCENT	AT LEAST 25% WITH INCOME < $3000 WTD. FREQ.	AT LEAST 25% WITH INCOME < $3000 CUM. PERCENT	AT LEAST 50% WITH INCOME < $6000 WTD. FREQ.	AT LEAST 50% WITH INCOME < $6000 CUM. PERCENT	ENGLISH NOT PRINCIPAL LANGUAGE WTD. FREQ.	ENGLISH NOT PRINCIPAL LANGUAGE CUM. PERCENT	TOTAL NORMING SAMPLE WTD. FREQ.	TOTAL NORMING SAMPLE CUM. PERCENT
50	34412	20.8	7199	72.1	2614	58.8	8047	55.5	16462	46.3	1108	65.9	44779	29.9
49	33840	19.6	7077	70.6	2768	57.3	7213	54.0	15311	44.9	1747	65.0	44755	28.7
48	31406	18.4	7809	69.1	3248	55.8	9451	52.8	16294	43.6	1679	63.5	43638	27.4
47	34218	17.3	6759	67.5	2657	54.0	9092	51.1	17261	42.2	1340	62.0	46974	26.2
46	30749	16.1	8490	65.7	2876	52.4	9205	49.5	18180	40.7	2023	60.9	43068	24.9
45	30372	15.0	9614	64.0	3341	50.8	9735	47.9	18241	39.1	2507	59.1	44187	23.7
44	28889	14.0	9811	62.0	3526	48.9	10049	46.2	19751	37.5	1834	57.0	42935	22.5
43	25186	12.9	10544	60.0	2801	46.9	9276	44.4	18040	35.8	1602	55.4	39955	21.3
42	25269	12.1	9507	57.8	3744	45.4	9248	42.8	17861	34.2	2474	54.0	39181	20.2
41	23822	11.2	10869	55.8	3172	43.2	10682	41.2	18006	32.7	1937	51.9	39597	19.1
40	25643	10.3	10525	53.6	3097	41.5	9853	39.3	18306	31.1	2196	50.2	39873	18.0
39	22736	9.4	12503	51.4	3184	39.7	11152	37.5	18727	29.5	2050	48.4	38435	16.9
38	22211	8.6	11048	48.9	4010	37.9	11295	35.6	19396	27.9	2738	46.6	38318	15.8
37	20587	7.9	12524	46.6	3504	35.6	12474	33.6	19591	26.2	3450	44.2	38277	14.7
36	18913	7.1	11940	44.0	3077	33.7	10158	31.4	17715	24.5	2293	41.3	34491	13.6
35	21241	6.5	11161	41.6	4239	31.9	11182	29.6	19422	23.0	3666	39.3	38102	12.7
34	16857	5.7	11595	39.3	3140	29.5	10960	27.6	18033	21.3	2505	36.1	32568	11.5
33	16257	5.1	13471	36.9	3921	27.8	11897	25.7	18307	19.7	2547	34.0	34351	10.7
32	13841	4.6	12855	34.1	4070	25.5	9664	23.6	16530	18.1	3327	31.8	31590	9.8
31	13022	4.1	13042	31.4	4039	23.2	11780	21.9	19080	16.7	3065	28.9	31786	8.9
30	13277	3.6	11891	28.8	3481	21.0	11807	19.9	17366	15.0	3444	26.3	30252	8.0
29	9995	3.1	14046	26.3	3350	19.0	12005	17.8	18627	13.5	3076	23.3	28721	7.1
28	8675	2.8	12730	23.4	3555	17.1	10836	15.7	15887	11.9	2933	20.7	26096	6.3
27	9740	2.5	12704	20.8	3540	15.1	10171	13.8	15936	10.5	2653	18.2	26228	5.6
26	9261	2.1	10076	18.2	3553	13.1	9341	12.0	14070	9.1	2690	15.9	23392	4.9
25	8944	1.8	11393	16.1	3060	11.1	8802	10.3	14032	7.9	2174	13.6	24045	4.2
24	8273	1.5	10833	13.8	2022	9.4	8320	8.8	12688	6.7	1877	11.7	21403	3.6
23	7263	1.2	9586	11.5	2533	8.2	7912	7.3	11991	5.6	2264	10.1	19798	3.0
22	5266	0.9	7547	9.6	2239	6.8	5619	5.9	9461	4.6	1744	8.1	15424	2.4
21	3930	0.7	8187	8.0	2333	5.5	6859	4.9	10381	3.7	1963	6.6	14928	2.0
20	3916	0.6	6478	6.3	1804	4.2	4537	3.7	6608	2.8	1422	5.0	12398	1.6
19	3959	0.5	6025	5.0	1253	3.2	4388	2.9	6826	2.3	922	3.7	11237	1.2
18	2616	0.3	4095	3.7	1898	2.5	3044	2.2	4752	1.7	1297	2.9	8716	0.9
17	1119	0.2	3207	2.9	484	1.4	2327	1.6	3005	1.3	380	1.8	4938	0.7
16	1555	0.2	2881	2.2	359	1.1	1749	1.2	2798	1.0	210	1.5	4824	0.5
15	1225	0.1	2220	1.6	453	0.9	1619	0.9	2640	0.8	291	1.3	4117	0.4
14	371	0.1	1409	1.2	365	0.7	767	0.6	1417	0.5	311	1.1	2145	0.3
13	605	0.1	1216	0.9	294	0.5	729	0.5	1115	0.4	318	0.8	2115	0.2
12	474	0.1	881	0.7	182	0.3	555	0.4	1001	0.3	182	0.5	1537	0.2
11	264	0.1	953	0.5	62	0.2	527	0.3	734	0.2	62	0.4	1279	0.1
10	159	0.0	354	0.3	0	0.2	254	0.2	341	0.2	0	0.3	513	0.1
9	368	0.0	283	0.2	85	0.2	282	0.1	502	0.1	85	0.3	736	0.1
8	100	0.0	347	0.1	162	0.1	224	0.1	375	0.1	162	0.2	609	0.0
7	310	0.0	167	0.1	39	0.0	168	0.0	221	0.0	39	0.1	516	0.0
6	110	0.0	147	0.0	0	0.0	53	0.0	204	0.0	0	0.1	257	0.0
5	57	0.0	36	0.0	0	0.0	36	0.0	36	0.0	0	0.1	93	0.0
4	85	0.0	0	0.0	0	0.0	0	0.0	85	0.0	85	0.1	85	0.0
3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
N	2846027		485637		177021		568406		1151508		116278		3586310	
MEAN	65.0		41.6		47.0		48.9		53.0		44.3		60.8	
S.D.	17.1		16.3		17.9		19.0		19.6		18.1		19.1	

APPENDIX TABLE A

Geographic Regional Classification following U.S. Census Bureau

Northern States (Includes "Northeast," "Northcentral," and "West")	Southern States (Includes "South")
Alaska	Alabama
Arizona	Arkansas
California	Delaware
Colorado	District of Columbia
Connecticut	Florida
Hawaii	Georgia
Idaho	Kentucky
Illinois	Louisiana
Indiana	Maryland
Iowa	Mississippi
Kansas	North Carolina
Maine	Oklahoma
Massachusetts	South Carolina
Michigan	Tennessee
Minnesota	Texas
Missouri	Virginia
Montana	West Virginia
Nebraska	
Nevada	
New Hampshire	
New Jersey	
New Mexico	
New York	
North Dakota	
Ohio	
Oregon	
Pennsylvania	
Rhode Island	
South Dakota	
Utah	
Vermont	
Washington	
Wisconsin	
Wyoming	